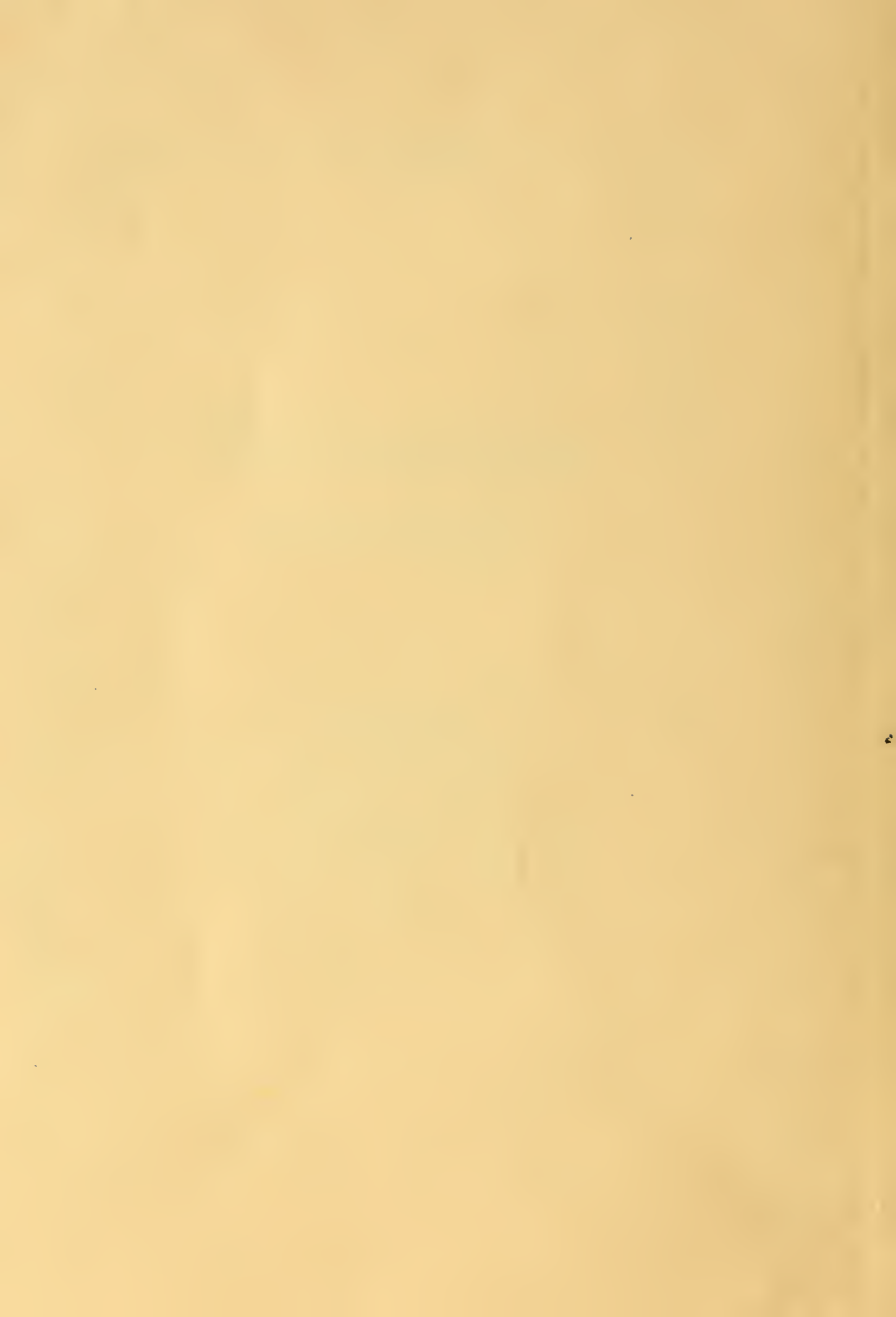


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Inventors & Inventions



H. ROBINSON.

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Inventors & Inventions

By
Henry Robinson

Illustrations by
T. M. Fleming



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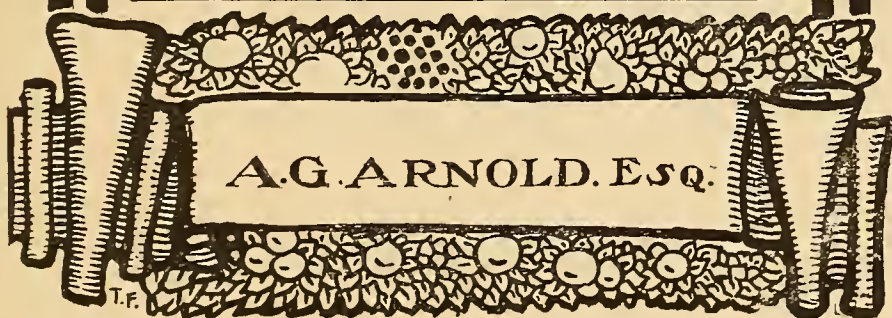
Inventors and Inventions



BY
HENRY ROBINSON
ENGINEER AND INVENTOR

1911

DEDICATED
TO MY FRIEND AND BENEFACTOR
A. G. ARNOLD, ESQ.



Preface



THE object of publishing this pamphlet is to awaken the public conscience to the great injustice continually being done to a numerous and worthy class of intellectual toilers, and the evil resulting from the same to the general public.

If perchance this will help to remedy the wrong to any extent, the author will feel amply repaid for the trouble and expense incurred in pointing it out to the public.

Respectfully yours

THE AUTHOR

H. Robinson

CHAPTER 1

SUCCESSFUL INVENTION



VERY large number of people in and out of the mechanical profession are intensely eager to know how to become successful inventors.

Wealth, honor and glory are the reward of the successful. Disappointment, drudgery, oblivion, and poverty are often the portion of the less fortunate ones.

Many of the latter foolishly attribute the greater measure of success to their fellow-workers in the same chosen field of usefulness to luck, which is far from the truth, and to that fallacious belief they often owe their own less favored condition. It is also an injustice to those who have reached the summit; as there is one, and only one road that leads to it, and which they all have to take, and its name is "Endeavor."

There are numerous fictitious definitions of the successful inventor, and yet there is but one true gauge and test of merit that entitles one to membership in the none-too-numerous and select fraternity. This test is the ability of producing a commercially successful invention.

That "Ability" is but the concentrated name for the possession of numerous requirements, comprising a vast and varied knowledge, theoretical, scientific, and practical, not only of the various mechanical branches necessary for successful machine designing, but of the art and conditions for the manipulation of that product for which a machine is designed, with or without that machine, and the newly designed machine's economic relation to the same.

Then securing the necessary co-operation of financial means must be attended to; introducing the newly hatched-out novelty into the market, compelling its adoption and general use, for its purpose, and organizing the proper fabric for its production efficiently and economically.



THE SUCCESSFUL INVENTOR



T. F. FLEMING

THE UNSUCCESSFUL INVENTOR

Last, but not least, there must be secured the possession of a fair share of its benefits to its originator, and to those "financial interests" necessary in the production and marketing of a successful invention.

All of these accomplishments are the necessary elements and attributes of the successful inventor, and are the steps by which he is required to climb and mount that desired eminence and through the skipping or missing of any one of those steps, many aspiring climbers have been hurled headlong to the bottom of the abyss just as they were within reach of the goal.

No matter how naturally favored one may be, never has nature so favored any individual as to bestow on him those necessary accomplishments gratis.

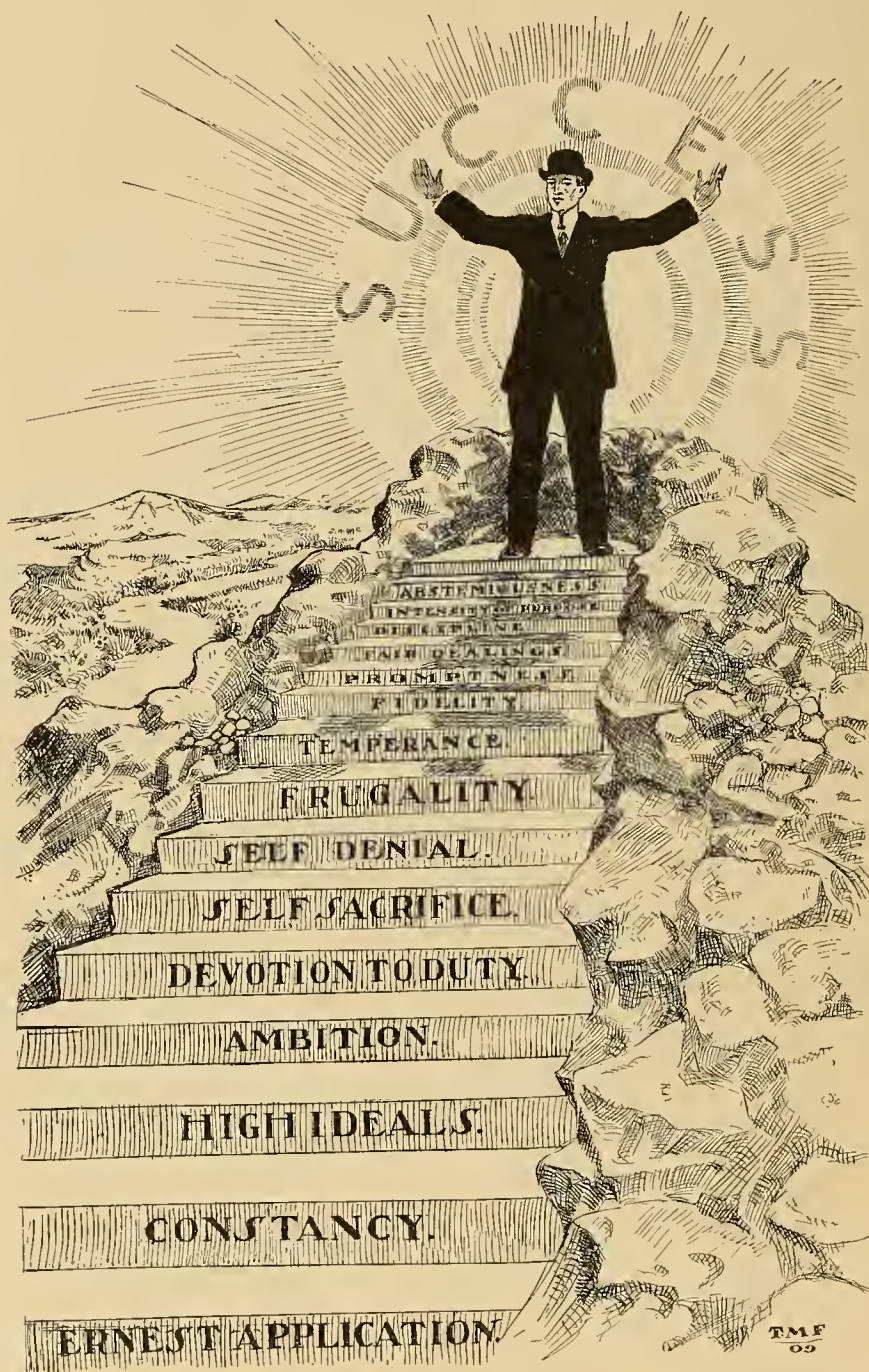
It is one of the greatest anomalies of human nature, that the performance of most difficult tasks, requiring for their consummation numerous and rare attainments, are continually undertaken by those who are least qualified to perform them. Lured by the glittering reward of the few successful ones, they try to gain by chance what can only be gained by work.

CHAPTER 2

MACHINE DESIGNING

While the elements of success in actual engineering are general, comprised by knowledge of well-known sciences and arts; yet the accomplishments of their undertaking must necessarily be stamped with the individuality of its creator, and along those lines that repeated experiences have found necessary, to insure success.

In inventing and designing a new machine, one must first thoroughly familiarize himself with its desired performance, as the success or failure of his mechanical creation depends on how nearly perfect that performance is, compared to established or desired standards; and the performance of that machine when made will truly denote how well its designer understood it, and his skill in mechanical manipulation to produce it.



THE STEPS BY WHICH HE IS REQUIRED TO CLIMB AND MOUNT
THAT DESIRED EMINENCE

Another important item of calculation must be the relative value of the probable production of the machine, its quantity and quality, to the cost of the machine.

Careful consideration must be given to the working conditions the machine will have to be adapted to. These must include a careful study of the substance to be worked upon in the machine, its regularity or irregularity in shape, its constant or changing conditions under various environments or seasons, and its general peculiarities.

The cost of manipulating the machine must be considered, that is, the required amount of power for its propulsion, and the cost of maintaining its efficient mechanical performance for a certain amount of production, or its durability, and its proneness to get out of order. Nor must one fail to take into account the required intelligence and skill to operate it.

While constantly and carefully bearing in mind the before-mentioned objective points, the prospective successful inventor in designing his machine, must carefully aim for cheapness of construction, which can only be properly accomplished by designing the various mechanical performances of the machine with the least number of parts, and of the simplest form, requiring for their proper production the least amount and cheapest kind of labor in the Pattern Shop, Foundry, and Machine Shop, and, next to the creating of efficient and durable machines, the greatest order of skill in a machine designer is required in producing simple and cheap mechanical designs.

And yet this is not all that is required from him, even in the mechanical line, but he must have such mechanical movements and parts in his machine, as will enable him to secure a good patent on it, which will insure him protection, at the same time carefully and absolutely avoiding any possible infringement on others. In a measure that can be avoided by looking up the copies of patents of similar inventions.

Another important factor in determining the general design of a machine, is the probable market for the same, as that must, in a great measure, decide the justifiable expenditure for the initial or first general cost, for bringing the successful machine into being.



INVENTORS SELDOM HAVE ANYTHING OUTSIDE OF THEIR ASPIRATIONS AND PROSPECTS.

So much for the mechanical or engineering part of the invention.

CHAPTER 3

FINANCING A NEW INVENTION

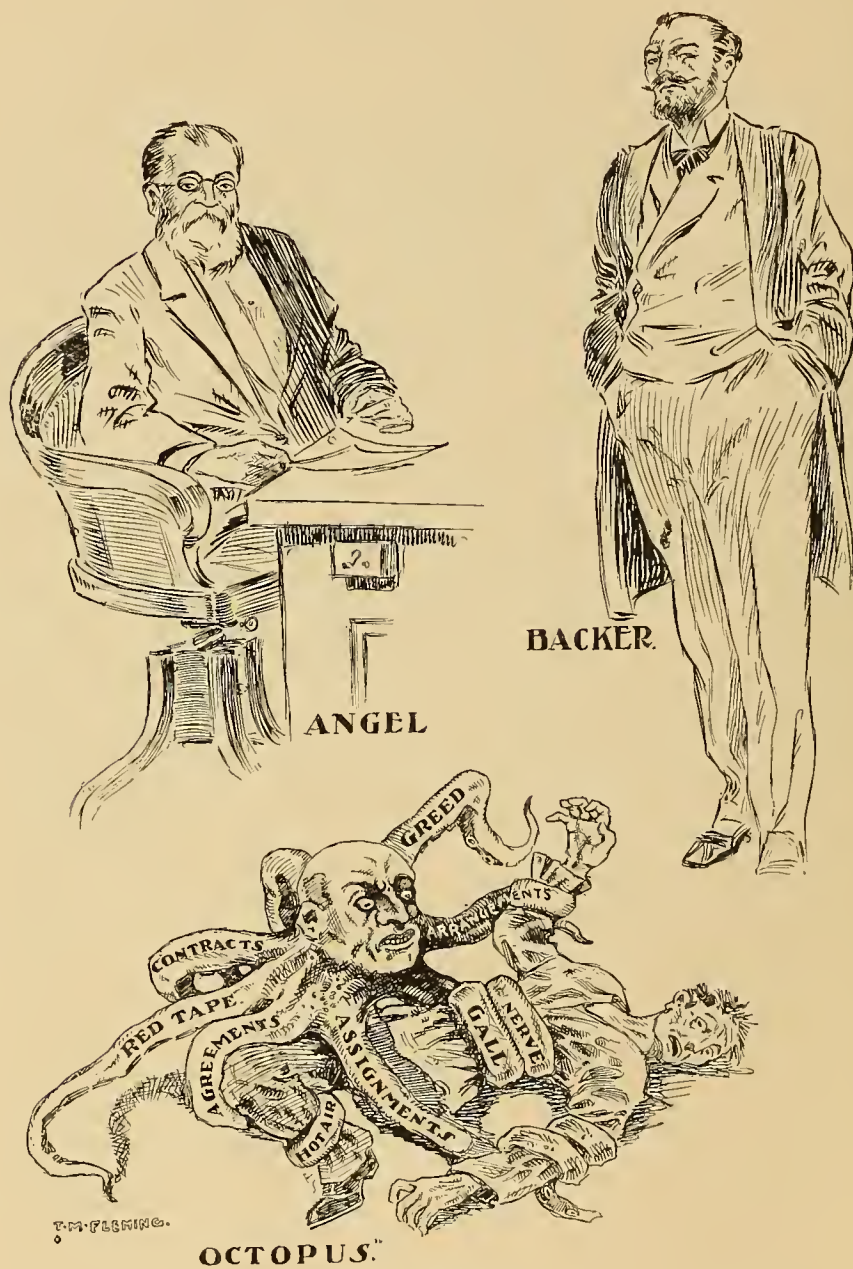
The next important part is the financial side of it. The estimate for this must necessarily vary with the intended mode of disposal of the prospective invention after its perfection.

If it is the intention of the inventor to dispose of his invention after it is perfected, the expense can be approximately estimated, and in many cases will be moderate, of course varying with the nature of the invention. But if it is the intention to manufacture it, create and supply a market for it, the required capital will always be considerable.

For many obvious reasons, it is considered advantageous for the profitable exploitation of an invention to have the financial end of it under a separate head, which is generally the case. Usually this is "making a virtue of necessity," as inventors seldom have anything outside of their "aspirations and prospects," whether it is that "necessity is the mother of invention," or that "Invention is the mother of necessity," is something that physiologists have not quite determined. But in any event, the prospective successful inventor must provide himself with a "finance minister," variously designated as "Angel," "Backer," or "Octopus."

This part of the inventive problem, to many an inventor, is insolvable for many reasons. To solve it successfully requires good insight, and judgment of human nature. Ability to impart one's own "enthusiastic aspirations," and to keep it up, requires diplomacy and tact.

But solve the problem he must if the inventor wants to be successful, and various means have been employed to do so. One of them, which is probably as good as any, is for the enterprising inventor to divide that part of his problem into two or several parts. If he cannot command a large amount at once, he will devote his energies to interesting successively



OCTOPUS.

FINANCE MINISTERS.

small amounts, which will enable him to carry on the development of his invention from one stage to another; each time advancing it further, becoming stronger, and showing enhanced prospects. To sell to each successive "Backer" the interest of his predecessor, and if the predecessor's money has been used to good advantage, that can be done profitably, and to the satisfaction of everybody concerned, as well as increasing the available means for carrying on the exploitation of the invention.

That is one of the ways by which an inventor can provide himself steadily with some one to take care of the "finance portfolio" in his cabinet.

Another, but far more hazardous way, is to resort to the professional promoter.

Great care, however, must be taken by the inventor in these various financial transactions, which necessarily include the making and signing of various contracts and legal instruments, that his entire invention as well as himself are not entirely absorbed by others.

As competent and reliable legal advice may not always be within his reach, he must be able to make contracts advantageously, and above all to be the possessor of a vision sufficiently penetrating to detect "the nigger in the woodpile," in any paper before he signs it.

CHAPTER 4

MARKETING A NEW INVENTION

The value and success of an invention depends upon its demonstrated usefulness to those for whose use it is intended, and their desire to avail themselves of the same.

It very often devolves on the inventor to give that value to it, a task which will not be found easy, especially to the novice.

The first necessary steps to force an invention into the market is to procure as many representative references from people using his invention as possible. This may necessitate placing his machine on trial for a certain length of time, and personally demonstrating



VISION SUFFICIENTLY PENETRATING TO DETECT THE NIGGER IN THE WOODPILE.

its usefulness; also educating other operators to operate his machine advantageously.

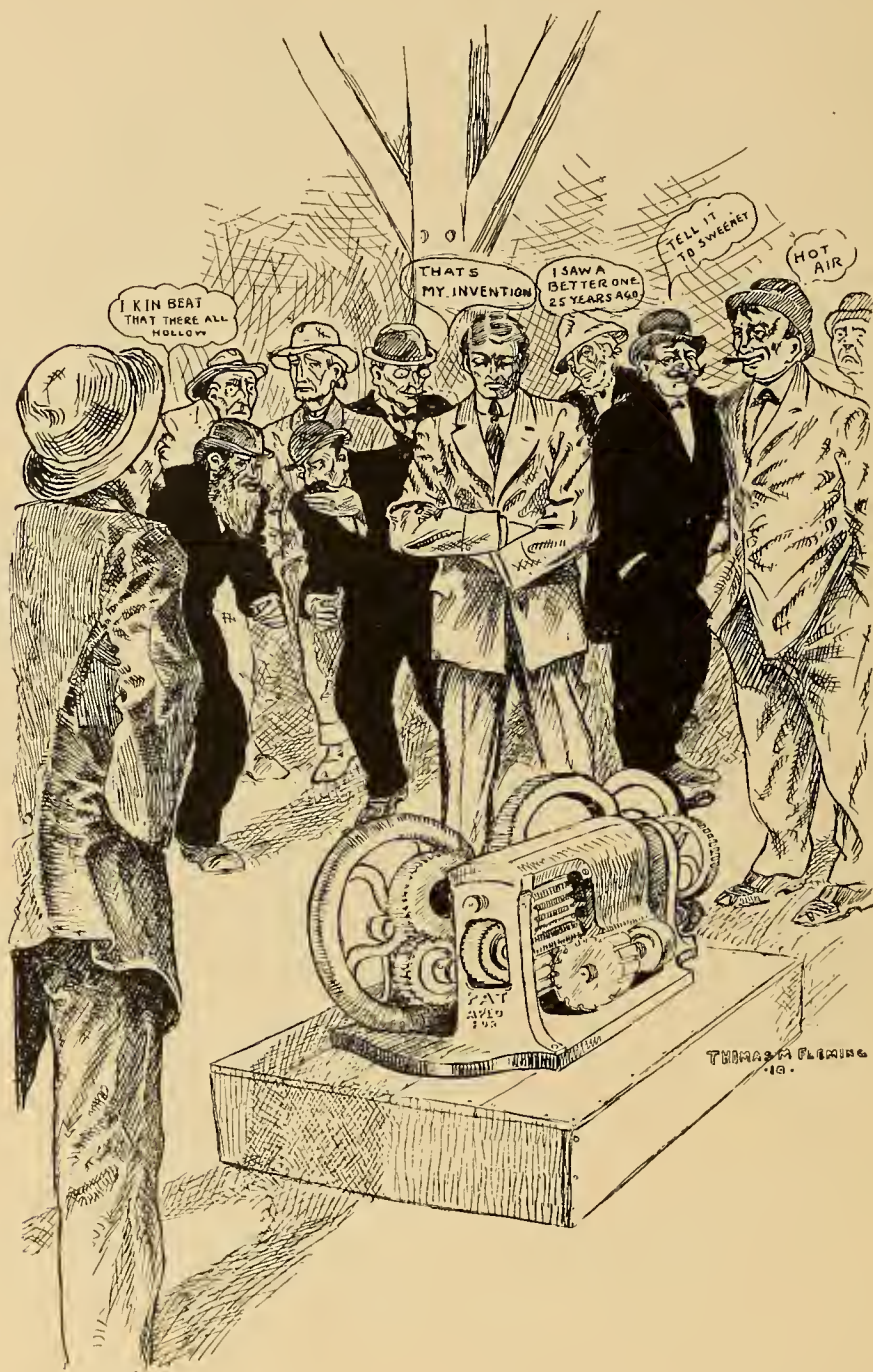
The inventor will find ample opportunity to display his forbearance at this stage of the game, as he will find at the beginning, "no one poor enough to do his invention reverence." And it is one of the strange things that one observes in life, that many people who have not sufficient energy and intelligence to raise themselves beyond the very humblest and meanest occupations in life, consider themselves amply qualified to criticise, and even make suggestions on inventions that some of the best brains have spent their best on.

But this is a condition that must be reckoned with and overcome in introducing a new machine on the market, and the inventor will find it to his advantage to use every possible means to persuade and win over those who will have to operate his machine, as well as to demonstrate to the proprietor himself the usefulness of the invention; and sometimes even he may find it to his advantage to furnish an educated operator for the machine.

If his means are limited, which is often the case, he will have to act as his own salesman, advertisement-writer, and press-agent until the invention becomes firmly established in the market. To go out in the cold, wide world and solicit orders even on approval for a new invention requires considerable adaptability, pluck, patience, and hard work. Very often success or failure depends upon the initial exertions in that direction.

No fixed rules can be laid down for that kind of work. To be successful, it must be varied with the nature and the disposition of every individual who does the selling and buying. But generally speaking, it is a safe rule for a salesman to observe, "Brevity, Directness, Simplicity, and Politeness," as the average business man is, by force of circumstances, homeopathic. They like "Talks" in small quantities, concentrated form, and sugar-coated.

Sometimes silence, the ability to keep one's mouth closed, and to respectfully listen to a loquacious



NO ONE POOR ENOUGH TO DO HIS INVENTION REVERENCE.

prospective buyer, will secure an order for a machine, where a disposition to do all the talking, however "silver" will not accomplish the same "golden" results.

Another important factor in introducing a machine into the market is advertising by mail.

Painstaking exertions coupled with the required ability to get up a proper circular, which should include a clear cut, half-tone preferably, of the machine to be sold, a concise explicit statement of the nature of the machine, and its capacity, and its advantages over previous or other methods of doing the same work.

In wording and phrasing your circular, observe simplicity. A list of references will materially enhance your chances of securing attention, as most people are willing to say "Me Too," where you could never get them to say "I."

In the general get-up of your circular it is best to have such an arrangement as will readily go into an ordinary business envelope, without folding. If, however, it must be folded, it must be so arranged that the fold so creased will not come at a vital point. Plain, clear type of convenient size, on good white paper, and black ink, is better than rainbow colors. However, a different color for a few words now and then for emphasis, is permissible, and may help to bring out certain points which you wish the prospective buyer's attention called to.

The general get-up of the circular must be of such a nature and form, that the prospective buyer of average intelligence will be attracted by it, and will get a general idea of what it has to tell him at a glance.

It is even best to leave the price of the article off the circular, as that will induce people to inquire for it, and give one a chance to get in touch with those who are interested, while those who would not even inquire for the price, would not buy any way.

Another means for introducing a new invention on the market, is in "write-ups" of the same in the daily papers, magazines, and trade papers; as very unfortunately a good many people would not pay any attention to circulars, and would not find time to grant a personal interview to a solicitor, yet they do look up

printed matter in the form of a newspaper, magazine, or trade-paper, and very often get their own views on any subject from the general tone of the article they read.

These articles require considerable intelligence, care, and literary ability to prepare, and more to get them printed, as they naturally have to vary in tone and style with the paper, or magazine they are printed in.

It is more or less easy to get a write-up in a trades-paper for an article that comes within its sphere, and very often the editor of that magazine will be willing to do the writing-up, from circulars furnished to him or from observations of the machines as a news item, for the dual purpose of furnishing its readers with useful information, and of obtaining advertising patronage from the beneficiary.

In other magazines, it will require more ingenuity and literary merit to get in at all, and except in very rare instances, it would be best for the inventor to turn that part of the business over to some one who has experience in that line of work, and knows "how."

CHAPTER 5

DETERMINING THE SELLING PRICE OF A NEWLY INVENTED ARTICLE

Considerable business acumen is required in determining and fixing the selling price of a new machine.

The factors to be taken into consideration are, the value of its saving in every direction to its purchaser, the average amount of capital invested in the prospective purchaser's business, and the amount to be invested in the machine, as very often a machine may be beyond the reach of those for whose use it is desired, by reason of its price.

In any event, the cost of producing the machine should not be a factor in determining the price, but the value of its product. And the cost of producing the

same results by any other process, will give a very fair estimate, after taking into consideration the means of the people who have to buy it.

Generally a machine is sold outright to the consumer, but in some instances they are only rented for certain periods or volumes of production.

That has to be determined by the nature of the invention and the business to which it applies.

CHAPTER 6

OFFICE MANAGEMENT AND BUSINESS POLICIES

If the inventor is unfortunate enough to be compelled to attend to his own office work, he will probably find it advantageous to observe the following rules:

Answer all letters promptly, briefly, and politely, and don't write what you feel like, as that will often get you into trouble. Don't forget to make a copy, and keep it, of every letter you send out, and file carefully all letters you receive.

If the inventor has to be his own purchasing agent, he should remember that the lowest price is not always the cheapest, and the highest price doesn't indicate that you couldn't get it any cheaper elsewhere, and as good, if not better.

Whenever possible, arrange for everything to be delivered at your place, as that throws the transit responsibility on the contractor until the goods are delivered, and your credit is also longer.

Order your goods as much ahead of time as possible as goods are very rarely delivered on the time they are promised.

Examine all goods delivered in your place as to quality and weight, and keep a careful memorandum of the same, and don't forget to check off the bills you receive for the same.

Don't be afraid to complain of unfair treatment, even at the risk of being called a "kicker."

Remember that the faithful performance of your duties for the firm that trusts and depends upon you,

is more important than the catering to anybody, especially if it has to be done at the expense of the firm you represent.

Don't expect "perfection" from people you are dealing with, as they have also a good many things to contend with, and when once you have O. K.'d the bills, pay for them as soon as possible if you want to maintain your credit and your self-respect.

Honesty and straight dealings will materially increase your chances of staying in the market, once you get there.

Cultivating a good name with the people you are dealing with, is better than "kowtowing" to "Rating Agencies," as well as being the cheapest and very best kind of advertising. Never misrepresent your financial condition when furnishing a statement to your bank, for you may do it once too often, and then you will wish "you hadn't." You will travel more easily and further by telling the truth.

CHAPTER 7

DIVERS WAYS OF EXPLOITING AN INVENTION

Having advanced his invention to the stage of having obtained a footing in the market, the inventor has reached the "Parting of the Ways," and now is the time for him to decide whether he is to sell his invention, or to keep it.

If he decides to sell, his likely buyers are those who are in that line of business, and who are generally willing to add to their established business some patented novelty in their own line, that will give them exclusive use, and special advertising facilities, thereby increasing their profits, and enhancing their prestige; or some capitalist on the alert for a profitable investment, and congenial occupation.

The decision of the inventor must depend upon the nature of the invention, its profitableness, his own financial resources, his health, his energies, temperament, and the likelihood of his invention being imitated, and his mechanical and financial ability to protect it.



"A BIRD IN THE HAND IS WORTH TWO IN THE BUSH."

Generally speaking the proverb about "A bird in the hand is worth two in the bush," is very applicable to inventions, and the inventor who is blessed with a grain of prudence in his make-up, will think carefully, and his best, before he refuses a fair offer.

If he desires to sell, a sum of money outright is better than a royalty.

Should it not be practical or desirable to dispose of it, he must make preparations to supply the market in constantly increased proportions.

Owing to the various kinds of skilled labor, numerous expensive tools, machinery, high rents for suitable manufacturing places necessary for the building of machinery, requiring the investment of large capital, and the devotion of a great deal of time for organization and supervision, many inventors find it convenient, even profitable, to have their machines built under contract by some established manufacturing concern which is properly equipped for that special kind of work. This in many cases is a very wise business-like course to pursue, as it eliminates the necessity of a large investment, and leaves the inventor free to devote himself to improving and enlarging the field for his invention, and to attend to the business end to better advantage.

CHAPTER 8

USEFUL POINTERS ON SUCCESSFUL MANUFACTURING

Should it, however, be decided to manufacture his invention, it will be found that a proper system for regular routine will be required to produce the articles within reasonable cost.

If the inventor has no special experience in manufacturing, it will be greatly to his advantage to procure information, by inspection, and carefully noting the methods employed in up-to-date manufacturing establishments, making similar articles.

Manufacturing must be carried out from "THE TOP DOWNWARDS," not from "THE BOTTOM UPWARDS." That is, the brain work in the office must be carefully planned and carried out first, and

recorded in assembly and detail drawings and carefully written-up specifications.

Next a double set of metal patterns should be made to be kept in two separate places to guard against fire.

To do everything should not be attempted in the beginning, as many parts requiring special equipment and special skill, such as foundry work, drop forging, gear making, and wood work, can very often be contracted for with persons especially equipped to do that work, at less than the price it would cost to produce them by a firm which has to do a little of everything. Elimination of that much of the work permits better concentration and increased facilities for the other work, resulting in a maximum of production with a minimum of investment.

The work in the factory should be carefully divided up, and localized.

If the quantities of complete manufactured articles to be made are large, or there is a fair prospect that they will be so, and their sale is not localized, a duplicate, interchangeable system of manufacture is indispensable, and should be employed from the very beginning. In spite of the initial expenses for tools, it will be found to be a great saver of worry, annoyance, trouble, and money. Also the labor cost for duplicate parts in the making and assembling is very considerably less than if made in the "GOOD OLD WAY." This makes it possible to supply parts that will fit the machine which will be required in the course of usage, in any part of the world where it may happen to be, and which often forms a considerable part of the profits. Indeed it may be truly said that it sometimes pays to give machines away for nothing, if assured a monopoly of its repairs at one's own prices.

The "gang-boss" system in the shop will be found a material aid in producing and maintaining a desired standard of quality and quantity. It will also lessen the necessary supervision and worry in tracing, and eliminate deficient and jarring elements in production.

A healthy, accessible location, and a clean, comfortable shop are indispensable. Fair, just and considerate treatment, with an apparent ready apprecia-



I DON'T FAIL
TO GIVE
CREDIT
WHERE
IT IS DUE.



THE GOOD WILL AND WELL WISHES OF THOSE WHO HELPED CREATE IT.

tion by the management, of the merits of their employees, will be duly rewarded by the willing and faithful co-operation of those on whom in a great measure the success or failure of manufacturing depends; also enhancing the value of the profits by the addition of the goodwill, and wellwishes of those who help to create it, as the want of it often mars the enjoyment of the money when earned.

CHAPTER 9

WARNING TO PROSPECTIVE INVENTORS

By a careful perusal of what has been said, it will be seen that the undertaking of a successful invention is no easy task, and that it cannot fall to one's lot by mere chance.

It is quite true that, like the diamond, the inventor, the general, orator, or writer is born. But be it also remembered that even a diamond has to be cut, ground, and polished before it attains its lustre, and the inventor or general, writer and orator are no exceptions to the rule.

The general could not conquer a valiant foe if he did not master the science of war, or if he failed to familiarize himself with most of the conspicuous experiences of others in the same profession.

The writer and orator would have no audience if they failed to fertilize their brains with rich stores of knowledge to draw upon, and with proper means of expressing themselves.

And the inventor is generally doomed to failure if he fails to earnestly apply himself to the acquisition and mastery of that knowledge which is potent to successful invention in the mechanical line, and to get his just or fair share of its value.

Numerous and deep are the pitfalls that the would-be-successful inventor must avoid. Rich and powerful are the members of the fraternity who thrive and fatten on him, through his short-comings of "Omission or Commission." At every stage of his progress he has to combat a new set and different kinds of vampires, each attacking him with different weapons, and in dif-



NUMEROUS AND DEEP ARE THE PITFALLS THAT THE WOULD-BE-SUCCESSFUL INVENTOR MUST AVOID.



VICTIMS CONSTANTLY THROWN UP BY THE WAVES OF PASSION AND FOLLY, ON THE STERILE SHORE OF HUMAN INDIFFERENCE.

SHORT AND
EASY CUT
TO
OPULENCE
AND EASE.

ENCOUR-
AGED TO
PERSEVERE
IN THEIR
FALLACIES
BY THE
SLICK
CUNNING
SHARKS.

WITH
THEIR OWN
ILL-CON-
CEIVED
NOTIONS
AND PRIDE.



THEY
BECOME
UNFITTED
FOR THEIR
USUAL
OCCUPA-
TIONS.

VERY
OFTEN THE
SUBSTANCE
OF THOSE
DEPENDING
ON THEM.

ferent ways, who consider the unlucky inventor their natural and legitimate prey. These men respectively garb their duplicity with the respectable name of a "profession," and justify the means of robbing him of his just and hard earnings, with the all-condoning name of "Modern Business Methods."

As numerous and as pitiful as are the various victims constantly thrown up by the waves of passion and folly on the sterile shore of "human indifference," none are more so than they who have nothing better than the promptings of a more-than-ordinary share of vanity and conceit to aspire to the honors and rewards of successful inventors. Foolishly do they imagine it a short and easy cut to opulence and ease. Enthused with their delusion, they become unfitted for their usual occupations, and are encouraged to persevere in their fallacies by the slick, cunning sharks whose inevitable prey they become through it. These not only take their very last dollar, but very often the substance of those depending upon them: until at last, poor, ruined, deluded fools, they wake up to the realization of the grand truth, "THAT ONE GETS NOTHING FOR NOTHING," not even experience. But it is none the less unfortunately true, that those very victims themselves are responsible for the existence of the means and conditions for their undoing. If perchance in the outset of their ruinous career, they encounter one who would give them competent and honest advice, if it be at variance with their own ill-conceived notions and pride, he will receive insults for his pains, and be deprived of the opportunity of rendering any services to the profession of which his ability and integrity makes him a creditable and honorable member.

CHAPTER 10

ADVICE TO INVENTORS ON INVENTIONS

What and how to invent, is very often asked and variously answered. On the nature of the answer to the honest inquirer often depends whether he is to be discouraged in a good undertaking, or sent on a fool's errand, or directed rightly to the avenue of success.

The various answers to what and how to invent may be divided into three different kinds. The stupid, the misleading, and the intelligent. The remark is often made by certain people, "Oh, there used to be lots of chances to make fortunes out of inventions YEARS AGO, but not NOW." This is as stupid as it is untrue.

Never in the history of the world, have the opportunities been as numerous and the rewards as great as they are now for any and every kind of meritorious invention. Our advanced civilization, the complex intricacies of our social fabric, the enormous general increase in wealth and the consequent general ability, to greater or less extent, to gratify our numerous and various desires, has created an unlimited field of opportunity for the ingenious, fertile and enterprising brain. Not only for the improvements upon methods of "doing things," for which there is no man capable of setting a limit, but even for the invention and creation of entirely new means of gratification and utility.

The inventor of steam locomotion created for mankind a new means of providing for certain phases of its existence. Yet **THOSE** who successively contributed their ingenuity and made the **MODERN** locomotive possible have filled a want, served a useful purpose, conferred a benefit and justly earned and merited reward. The existence of the perfected steam locomotive did not deter human ingenuity and enterprise from developing electric traction. The inventors of wireless telegraphy, were not deterred or discouraged in their efforts by the existence of telegraph wires. The fact that, in all the unknown thousands of years of human existence, speech was considered only a human prerogative did not prevent "**THE SAGE OF LLEWELLYN**" from giving to the world the phonograph.

Every human brain is different from every other; endowed with its own special marvellous capacity, making it possible for it to succeed in new directions.

Who can fathom, or set a limit to the ingenuity of that divine creation, **THE HUMAN BRAIN**? None but its Creator. Our ordinary every-day mechanical utilities would be considered **MAGIC** by him who wrote, "There is nothing new under the Sun."



WHO CAN FATHOM OR SET A LIMIT TO THE INGENUITY OF THAT DIVINE CREATION, THE HUMAN
BRAIN? NONE BUT ITS CREATOR.



OUR ORDINARY EVERYDAY MECHANICAL UTILITIES WOULD BE CONSIDERED MAGIC BY HIM WHO WROTE—"THERE'S NOTHING NEW UNDER THE SUN."

Happily the world is not apt to suffer from the foolish slogan of "IN GOOD OLD TIMES," as generally the possessor of extraordinary abilities will not be deterred by it from using them. And a SIGH for PAST opportunities is but a true indication of the unfitness of its unfortunate emitter for any opportunity.

The "MISLEADING ANSWER" to "WHAT AND HOW TO INVENT" is that which tells everybody and anybody, to invent ANYTHING AND EVERYTHING.

Human abilities and environments vary, and it necessarily follows that every individual cannot be successful in that undertaking which requires for its successful accomplishment that which manifestly his Creator did not endow him with. Nor is the capable man apt to be as successful in a direction where, through his environments, he is a stranger, as he would in that field of operation that he has been most active in. It is better and cheaper for a person to first determine his possession of the abilities for doing certain things, than to find out the want of them by the failure of his undertaking. The gifted individual will also find success easier to attain if his efforts are directed in experienced channels, than if prospecting on what is to him, "unexplored wilds."

And to the "MISLEADING ANSWER" OF "WHAT AND HOW TO INVENT," can be, in a great measure, attributed the product of the inventive weeds that choke up the patent offices as well as the elimination of numerous individuals from ordinary but useful occupations for which their Creator evidently intended them. Their wasted substances furnishes a fat living to them who make a profession to give out this "misleading" advice broadcast.

CHAPTER 11

GENERAL DEFINITION AND CLASSIFICATION OF INVENTIONS

To "ANSWER INTELLIGENTLY, WHAT AND HOW TO INVENT." It is first necessary to analyze

most carefully the various phases of invention of various natures.

It will be observed that inventions in general may be divided into several divisions, as follows:

First:—Fundamental physical principles, which are very rare and purely scientific.

Second:—Basic mechanical adaptation to and for the first division which generally comes into existence soon after the discovery of the first.

Third:—Basic mechanical adaptation to a well-defined production, substituting human or animal exertions; which comes by degrees, and none too often.

Fourth:—Improved mechanical applications.

Fifth:—Diverse or varied mechanical applications.

The last two are the most prolific or numerous classes. The first division includes our physical sciences. The second is the first mechanical harness for utilizing a new discovery in the laws of physics for different purposes. The third includes the first mechanical appliances receiving impulse from some other body for doing to greater advantage that which is done by direct human or animal exertions, and are commonly termed labor-saving machines.

The fourth are the continuous improvements on the third, and may include basic mechanical contrivances.

The fifth is for accomplishing the same ends as the Second, Third and Fourth, but also for the greater adaptability for certain specific purposes, and for popularizing its production; that is to prevent the exclusive monopolizing of certain advantages gained through and by the Second and Third.

CHAPTER 12

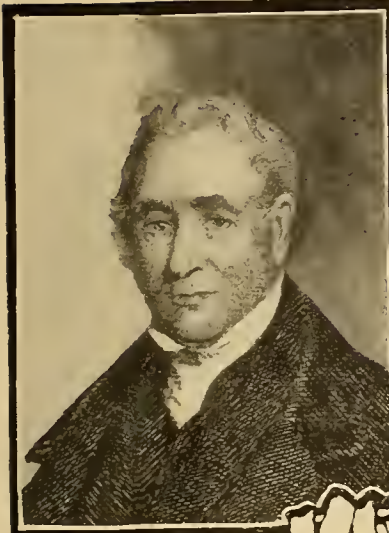
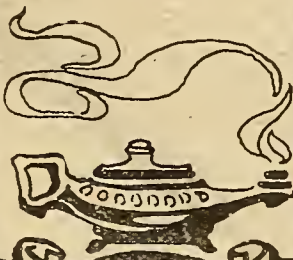
THE GLORY OF INVENTION AND PICTURES OF CELEBRATED INVENTORS AND SCIENTISTS

Great and glorious are the opportunities for the lucky individual possessing the required high standard of intelligence, education, taste, and means of devoting himself to scientific investigations and experiments,

DISCOVERER OF GRAVITATION.



NEWTON.



STEPHENSON

INVENTOR OF
STEAM ENGINE.



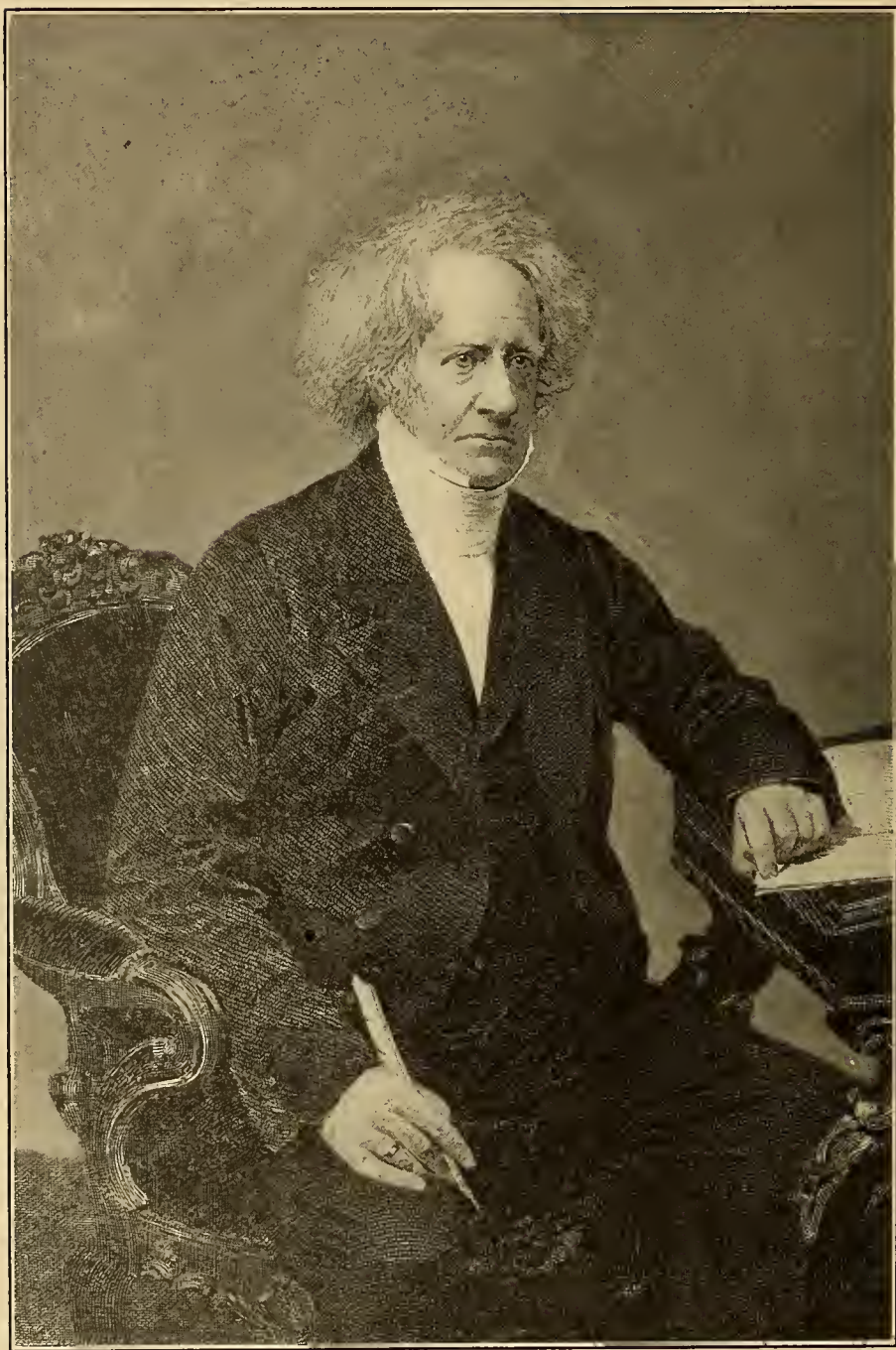
ELI WHITNEY.

INVENTOR OF
COTTON GIN.



ERICSSON

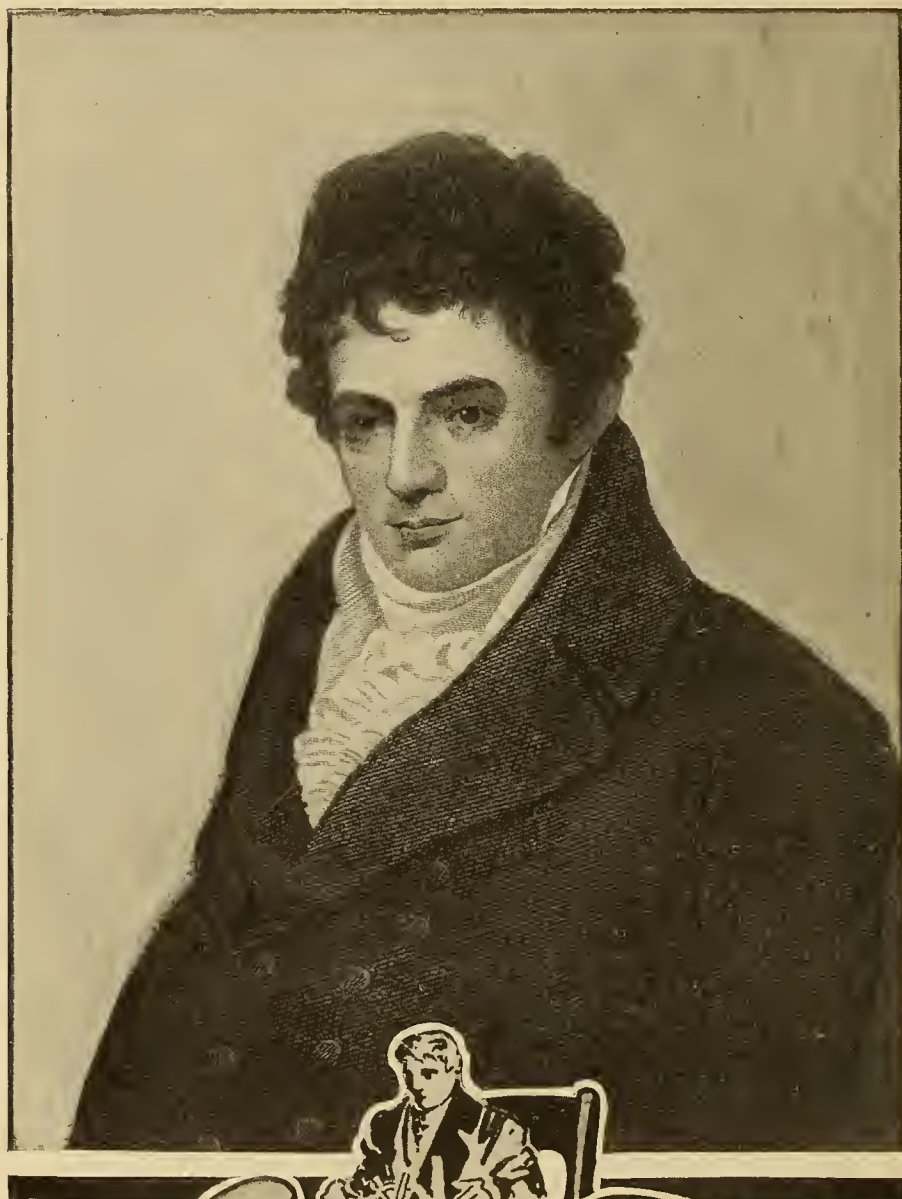
INVENTOR OF THE "MONITOR."



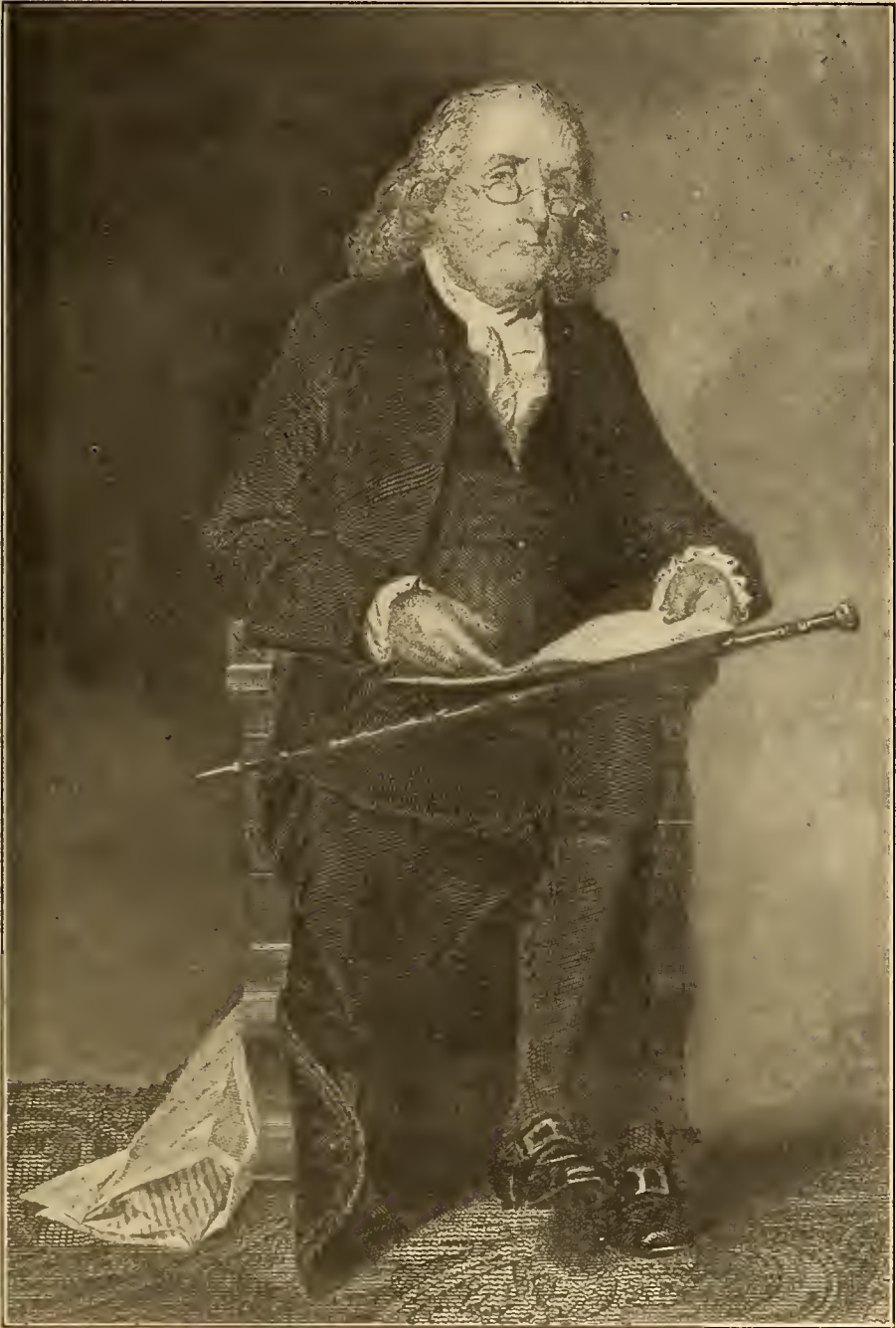
HERSCHEL,
ASTRONOMER.



S. F. B. MORSE,
INVENTOR OF THE TELEGRAPH.



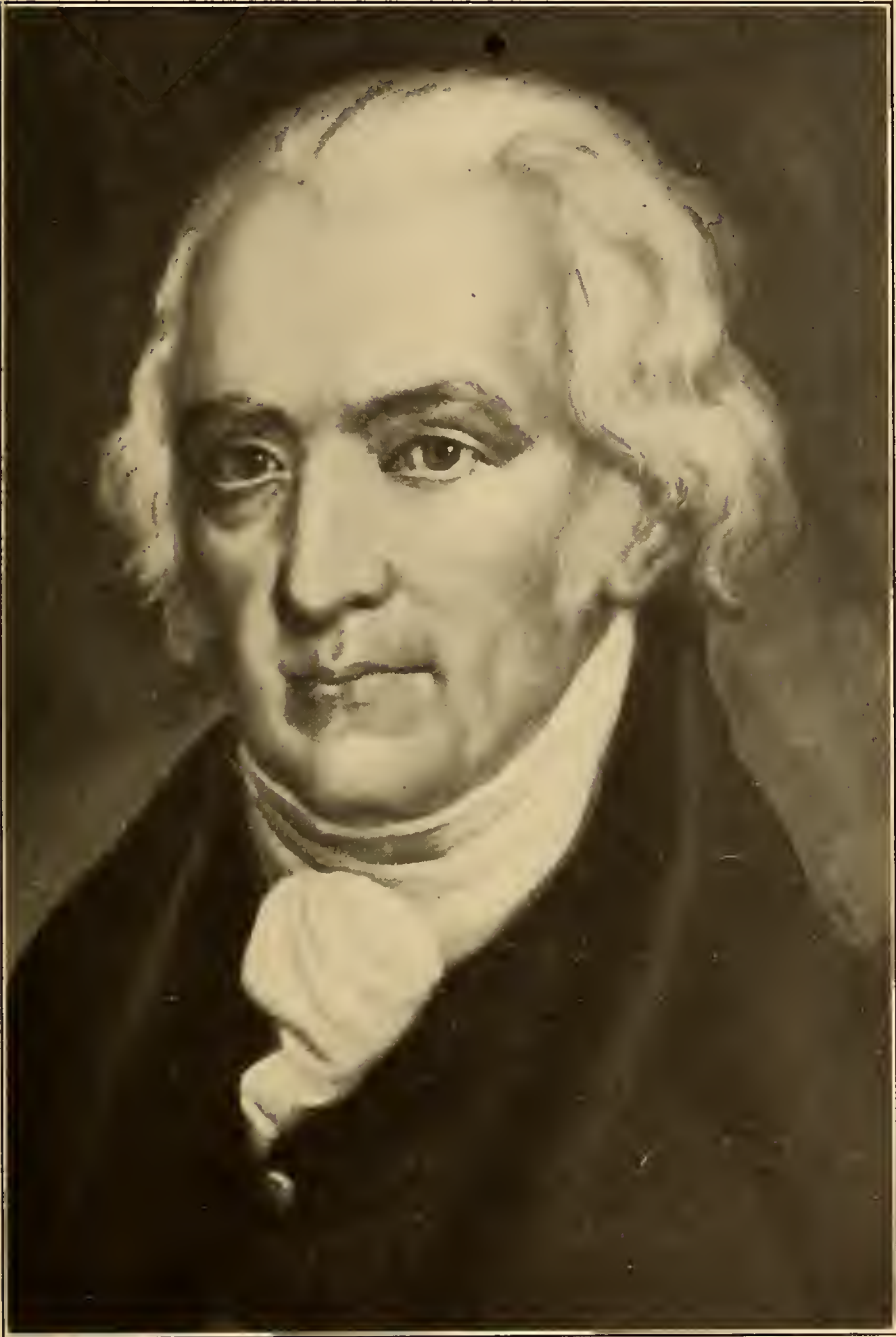
ROBERT FULTON, INVENTOR OF THE STEAMBOAT.



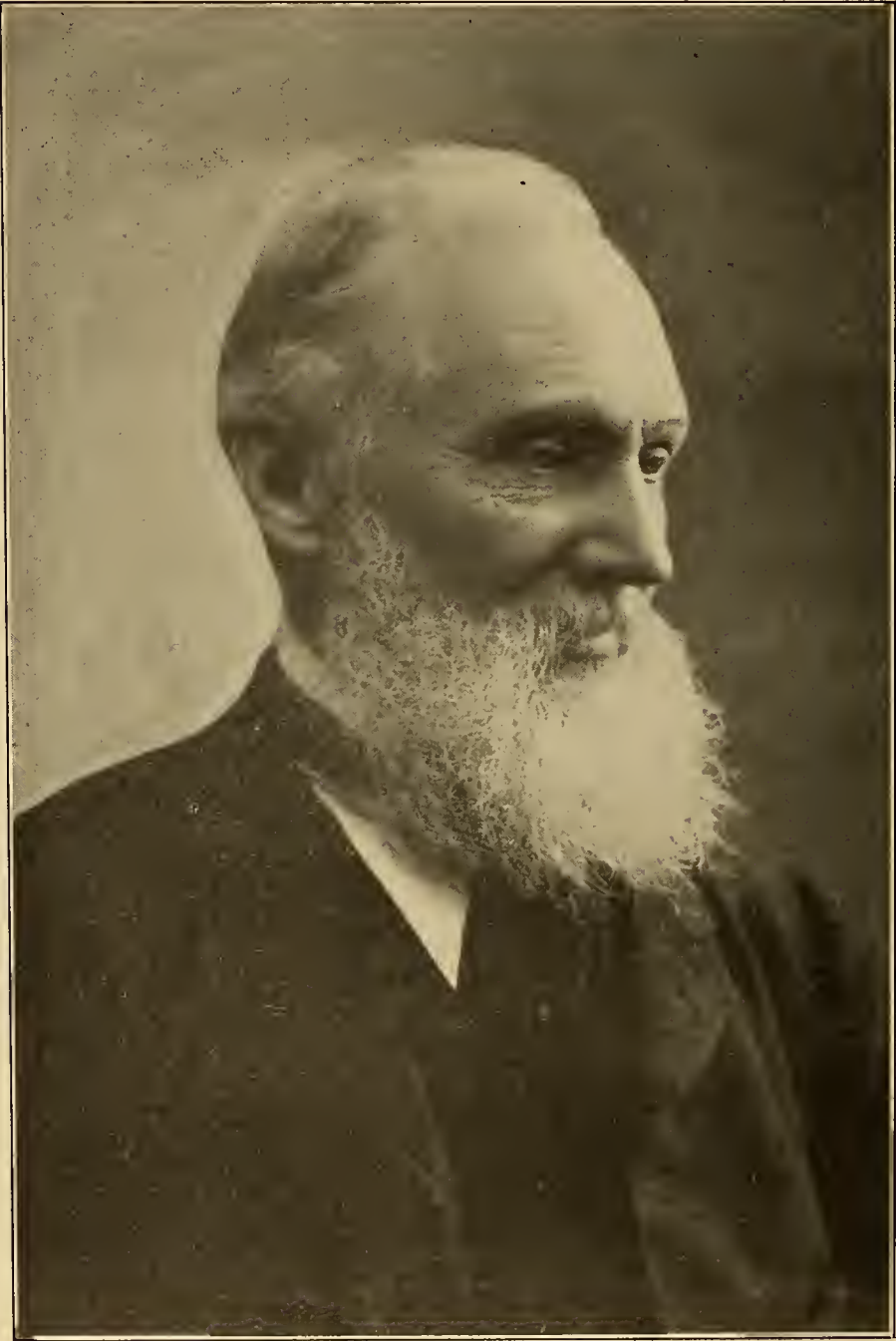
BENJ. FRANKLIN,
SCIENTIST.



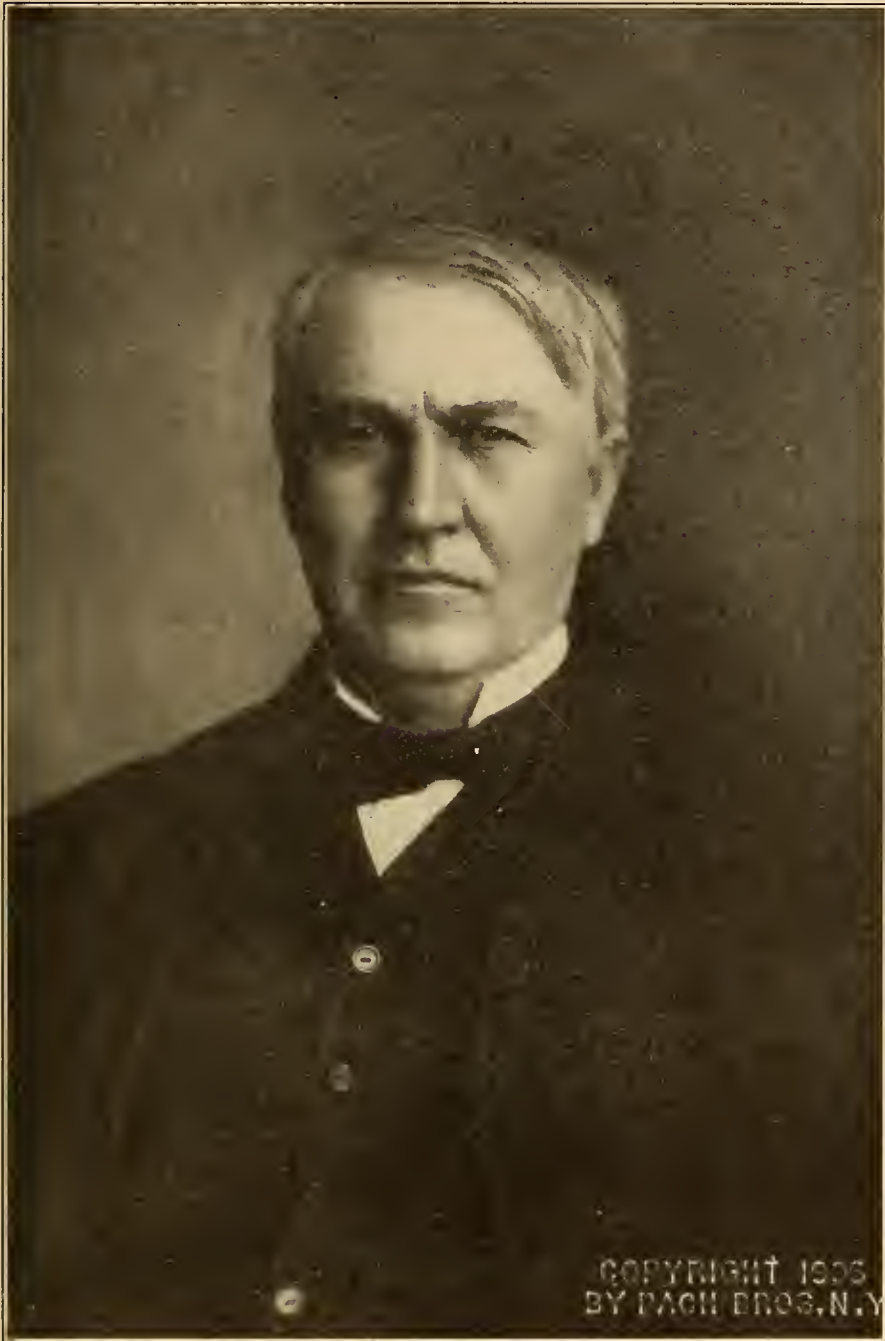
ELIAS HOWE,
INVENTOR OF THE SEWING MACHINE.



JAS. WATT,
INVENTOR OF THE MODERN STEAM ENGINE.



LORD KELVIN,
SCIENTIST.



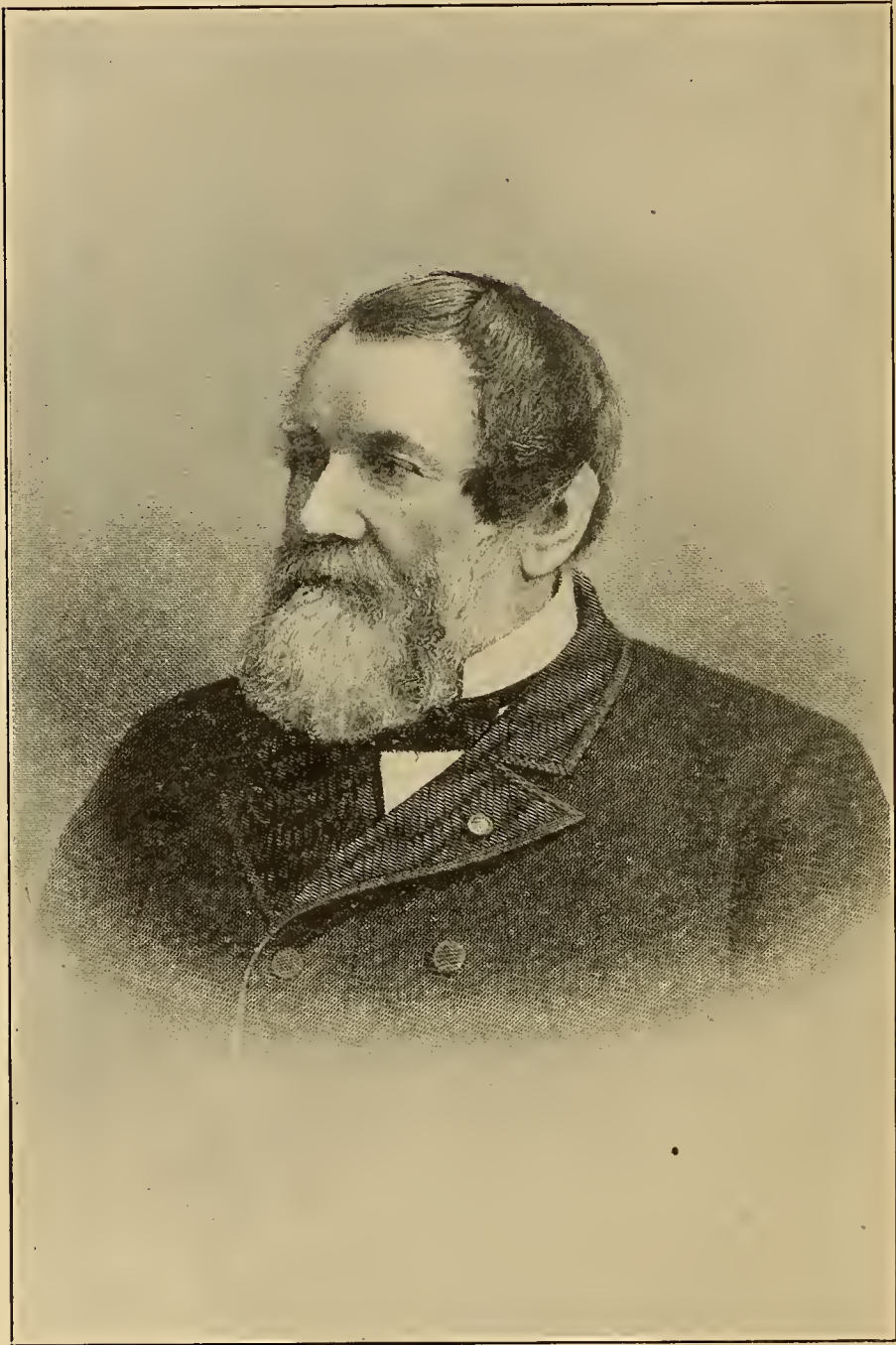
THOS. A. EDISON,
THE SAGE OF LLEWELLYN, INVENTOR OF THE PHONOGRAPH, INCANDESCENT LIGHT, ETC.



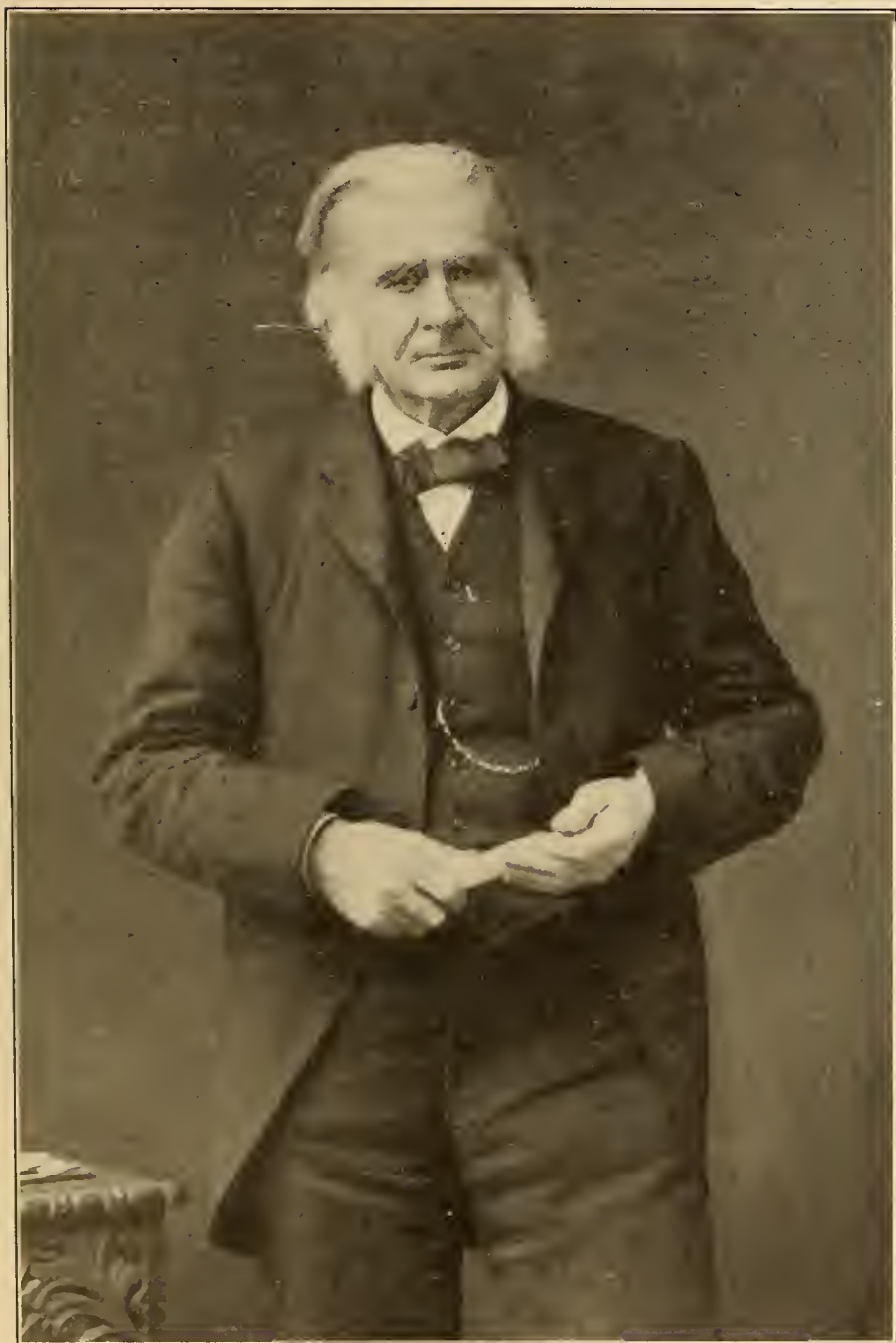
SIG. MARCONI,
INVENTOR OF WIRELESS TELEGRAPHY.



SIR H. BESSEMER,
INVENTOR OF BESSEMER STEEL.



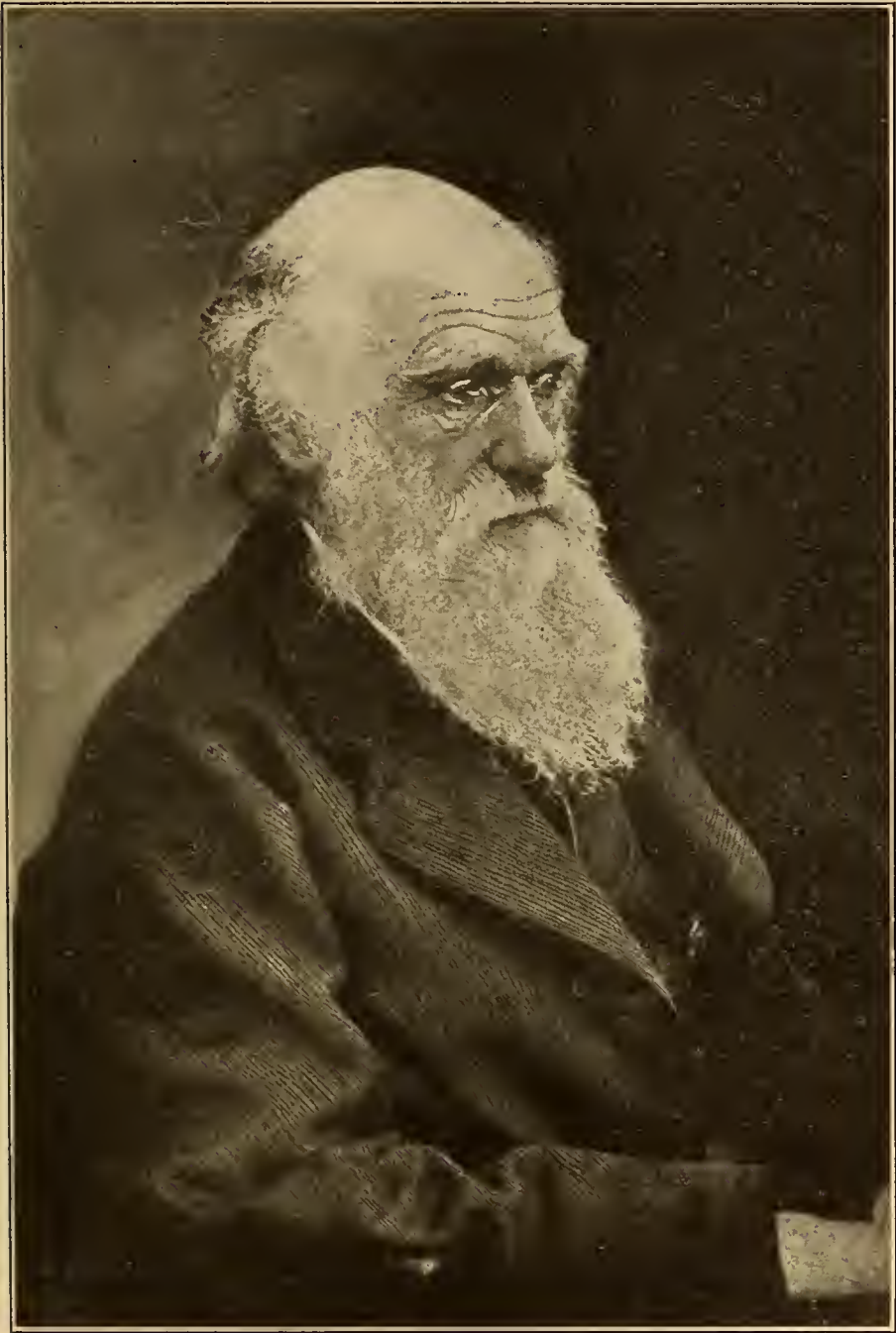
C. H. MC CORMICK,
INVENTOR OF THE REAPING MACHINE.



PROFESSOR HUXLEY,
SCIENTIST.



HUMBOLDT,
SCIENTIST



CHAS. DARWIN,
DISCOVERER OF EVOLUTION.



SEYMOUR M. BONSTALL,
INVENTOR OF THE "INNOVATION INGENUITIES."

discovering and giving to the world new scientific truths, and means of harnessing them to various human usefulness, coming within range of different dynamic forces, such as: steam, gas, electricity, hydraulics, etc. The gates of the treasures of rapturous joy are ajar to him, all his life, and an honored memory afterwards, as enduring as the civilization that made his triumphs possible. The products of his genius are his monuments, and are of greater beauty than any sculptor could produce. More enduring than the Pyramids, always noted by admiring and grateful humanity, to whom it gives comfort and inspiration.

One cannot possibly fail to get enthusiastic over the achievements of the long line of great scientific minds, who have made our civilization possible. "When will their glory fade?"

More humble, yet as useful, are the numerous inventors whose achievements necessarily come under the Third, Fourth and Fifth classification. The inventing and designing of a machine to do work more quickly and better than has been always done by hand increases and cheapens a useful production, placing it within reach of those who would otherwise be deprived of it, and always eliminates drudgery.

CHAPTER 13

HOW TO INVENT

How to invent? Invention is a problem and a solution. It necessarily follows that the first thing to do is to thoroughly comprehend the problem and then contrive mechanical means to solve it. Work from the centre outwardly; that is, build up your machine around your object of accomplishment. Do not try to design a machine and insert it afterwards.

There are many men so extraordinarily gifted that it is possible for them to succeed in diverse directions, even in those for which they have not been especially equipped by training. That is conspicuously true in invention.

Useful inventions have been invented, and fortunes made by the inventors who were not engineers so far

as training was concerned, nor were they even machinists, yet their extraordinary gifts have out-balanced the disadvantage of the lack of training for mechanical creation; but they all had to enlist, more or less, the services of others to make up for their own deficiencies. No doubt there will be many more inventors from outside the ranks of mechanical engineers, and they will find the following suggestions useful.

Understand thoroughly what you have to accomplish, first of all. After conceiving your ideas of a mechanical contrivance to do it with, try and make some kind of a sketch of the whole and the part respectively.

CHAPTER 14

HOW TO MAKE SKETCHES AND SPECIFICATIONS

The fact that you are not a draftsman or have even no idea of how drawings are made, need not deter you from making sketches that will be understood. A sketch or drawing is a representation more or less correct of the imaginary object in your brain. Drawings or sketches are the easiest kind of writing. They are picture writing, usually the first mode of writing employed by primitive people, and any man who has the intelligence to invent, no doubt has sufficient ability to make some kind of sketches with pencil on paper of the pictures he conceives in his brain.

In making your sketch, remember that nearly every object has many sides to it, and your sketch is to impart a conception of the shape and form of that object to somebody else who has no knowledge of it, and must necessarily get his ideas from your sketches as he cannot look inside of your brain; therefore make as many sketches of your object as there are sides to it, and mark them, front, side, back, top and bottom, and every separate piece, 1, 2, 3, etc.

Write up explanations or specifications of the same. You can learn how to do that by reading standard works on applied mechanics.

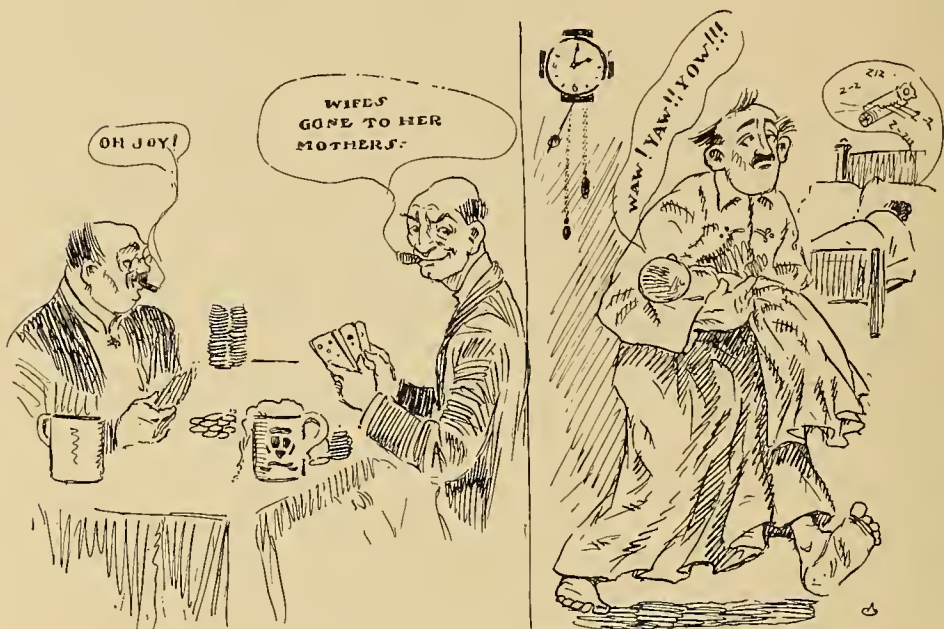
CHAPTER 15

THE NECESSITY OF COMPETENT ENGINEERING FOR
SUCCESSFUL INVENTION

Having done that much, now do not make a "bee line" for the Patent Office. Do not imagine that the goal of your ambition, or the end of your tribulations lies in the Patent Office, that the obtaining of some kind of a patent places an "Aladdin's Lamp" at your disposal. You have not got anything positive as yet to get a patent on—the fact is you only think you have something—but your judgment may not be the very best on the subject for your own good. Take your sketches and your specifications and consult a competent, reputable engineer, and he will tell you what are the prospects and probabilities of your invention. If your invention is a valuable one, engage his services to re-design it for you, and to make it practical. Don't think that because you are an inventor you are necessarily a "natural born engineer." They don't grow that way. But be wise enough "to know what you don't know," and to get the right services from the right man. After your engineer has incorporated your invented idea in a suitable body, try to get your protection in the Patent Office on the form in which you intend utilizing your idea. No patents are granted on ideas.

You will find the money spent on engineering your invention well spent, as very often large sums of money would be saved in making models and experimenting, and litigation would often be avoided if the inventor would have the practical "horse sense" to go to a competent engineer when in need of engineering skill.

In designing and inventing a machine for doing certain work on a certain article which is otherwise done by hand, it does not necessarily follow that the machine must imitate in its actions the method employed by hand in accomplishing the same ends. That is very often not the only or the best method of doing it. While it is desirable for the machine to accomplish as good, or better, results than is accomplished by hand process, it may be far from desirable for the machine to



NO TRUST
HERE

DRINK
ROTGUT
WHISKEY
10¢



AN INTELLIGENT AND PRUDENT INVENTOR WILL CAREFULLY NOTE HIS OWN CAPACITY.

imitate in its action the HAND PROCESS in doing it. That may be a very roundabout way of doing it, and may not lend itself to simple and desirable mechanical manipulation. For that reason the inventor of a labor-saving machine may often have to first invent a new process for bringing about certain results on the substances on which his machine is to operate, that may be radically different from the method employed by hand.

It is therefore obvious that, to invent a labor-saving machine successfully, it is first necessary to determine the executive method of operation, and often to invent a more suitable and adaptable one before inventing the means for accomplishing the same, as the executive part of his contemplated machine is his problem, and the ease or difficulty of its solution depends upon its simplicity. The intelligent and prudent inventor will carefully note his own special capacity, aptitude, taste, education, training, experience, and opportunity in certain directions. He will carefully weigh and measure so far as possible in advance his proposed undertaking, and when finally decided upon, he will set himself to work enthusiastically on the lines laid down in this article, and with all the devotion and tenacity that is in him, knowing no defeat, learning and finding new means to solve the problem from every set-back and apparent failure, until he will bring it to a successful accomplishment, and actually tear Victory from the Jaws of Defeat.

CHAPTER 16

PERT POINTERS FOR PROSPECTIVE INVENTORS THAT WILL BE FOUND HELPFUL

While it is impossible to lay down fixed rules for the would-be successful inventor to follow, the following will be found useful:

Observe everything carefully. Try to remember everything you see. Acquire the habit of concentration. Reason logically. Do not overlook details. Be a hard worker. Keep your mouth shut. Don't count your chickens before they are hatched. Don't get inflated



OBSERVE EVERYTHING CAREFULLY. TRY TO REMEMBER EVERYTHING YOU SEE. REASON LOGICALLY, DO NOT OVERLOOK DETAILS.

with your superiority, neglecting to avail yourself of the accumulated knowledge and experience of others. Don't imagine yourself a Solomon. Don't bite off more than you can swallow. (Read Æsop's fable about the "Eagle and the Jackdaw.") Don't set yourself a Quixotic task, and, on the other hand, don't think it is impossible for you to succeed where others have failed.

Do not start an advance account in greatness by telling everybody you come in contact with what a wonderful invention you are working on, thereby trying to enhance your importance with them. Remember you are not "It" until you have succeeded, and when you do, the world will know it soon enough, and you will not suffer by reason of its having found it out for itself. Remember an inventor is only judged by what he has made good, not by what he has attempted.

Don't, oh! please don't go about with a face as solemn and anxious as if you were an Atlas. Using the inside of your head, should not be sufficient reason for neglecting the outside of it by "boycotting" the barber. Hair is not "Wisdom teeth."

Do not waste your time complaining for the want of appreciation in your wife, for the "great ideas" you have in your head. She may have a strain of Missourian blood in her veins, and "She wants to be shown." When you "do," you can be sure she will not be slow in handing you up the "sugar lumps."

Because Shakespeare, Napoleon, Ruskin, etc., have parted from the partners of their youth, should not lead you to the deduction that it necessarily is the earmarks of greatness to cast aside, when you have become successful, the sharer of your early poverty and struggles. You will be greater by not following anybody's example, in that respect.

Remember that only a temperate abstemious régime of life can give you the healthy brain required for the successful accomplishment of anything worth doing. Don't fail to give credit to others when it is due. Don't forget to repay those who have helped to make your success possible, and, lastly, gain your success in such a manner that your enjoyment of its



DON'T IMAGINE YOURSELF A SOLOMON.



"THE EAGLE AND THE JACKDAW." DON'T BITE OFF MORE THAN YOU CAN SWALLOW.



DON'T SET YOURSELF A QUIXOTIC TASK.

TELLING
EVERY ONE
YOU COME
IN CONTACT
WITH WHAT
A WONDER-
FUL INVEN-
TION YOU
ARE WORK-
ING ON.

LISTEN - IT IS THE GREATEST EVER - WILL REVOLUTIONIZE
THE WORLD - WORKS LIKE A CHARM - I'VE HAD HUNDREDS
OF OFFERS FOR IT - I'M THE GREATEST INVENTOR THAT
EVER HIT THE PIKE - BELIEVE ME !!
YOU OUGHT TO
SEE IT - ETC.

HAIR IS
NOT WIS-
DOM TEETH.



DON'T GO ABOUT WITH A FACE AS SOLEMN AND ANXIOUS AS THOUGH YOU WERE ATLAS.



SHE WANTS TO BE SHOWN.

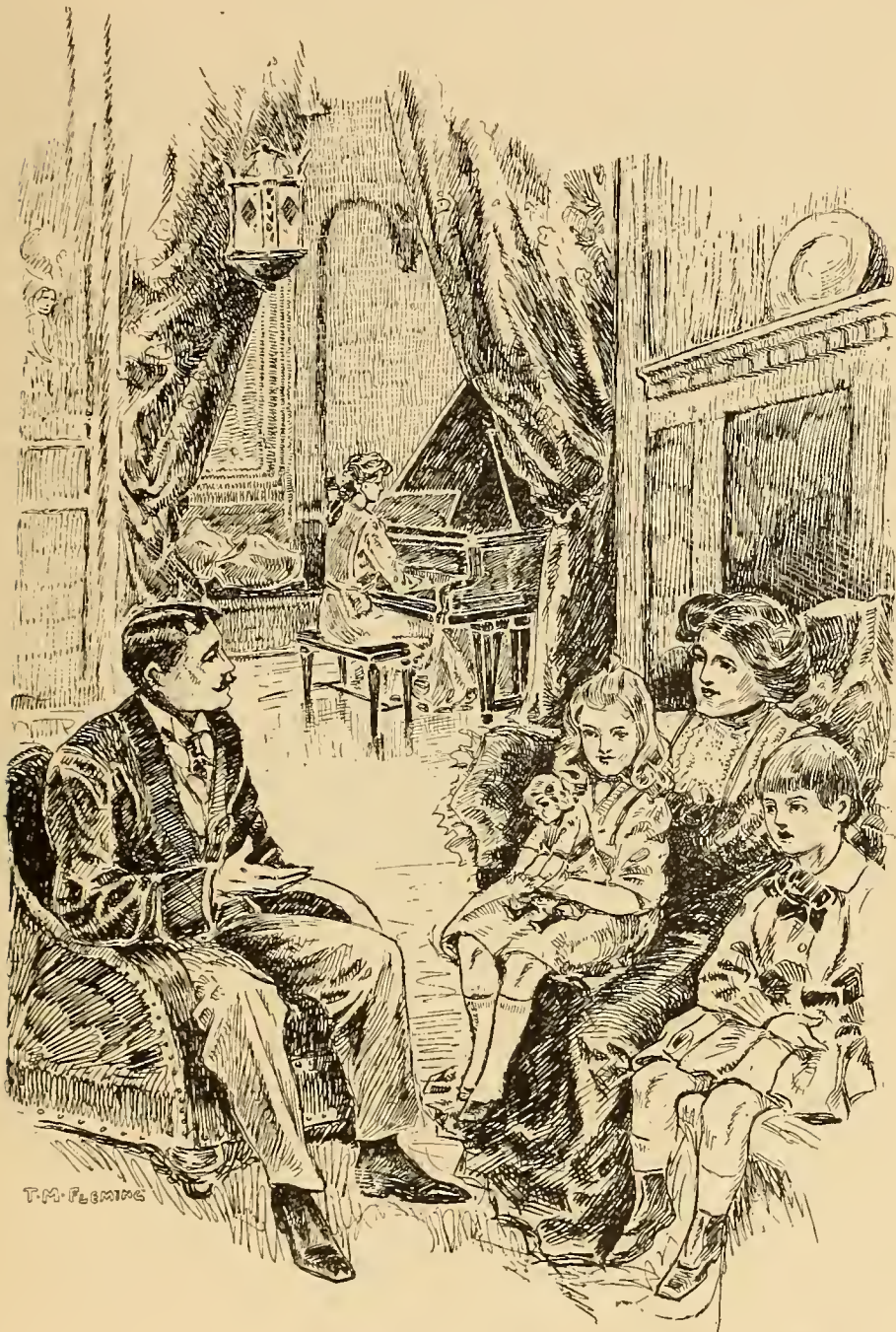




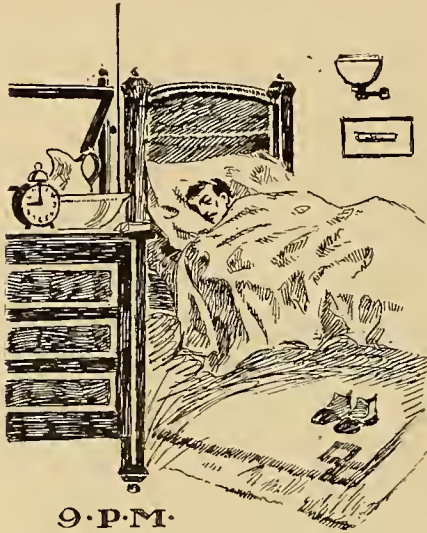
SHE WILL NOT BE SLOW IN HANDING YOU UP THE SUGAR LUMPS.



TO CAST ASIDE WHEN YOU BECOME SUCCESSFUL THE SHARER OF YOUR EARLY POVERTY AND STRUGGLES.



YOU WILL BE GREATER BY NOT FOLLOWING ANYBODY'S EXAMPLE IN THAT RESPECT



9 P.M.



6 A.M.



ONLY A TEMPERATE ABSTEMIOUS REGIME OF LIFE CAN GIVE THE HEALTHY BRAIN.



reward will not be marred by the remorse of your conscience.

CHAPTER 17

PROTECTION OF AN INVENTION

The protection of an invention implies the dual problem of how to prevent others from stealing the product of one's mental labor, and of how to insure a fair share of its value to the inventor.

To solve that problem absolutely is of course no more possible than the absolute prevention of the pilfering of anything else of value in the world, but it may be made as secure as the present circumstances in the case will permit if the inventor, to use a slang expression, will be "on to the game." To be that, he first has to know with whom he has to reckon, and how the stealing is done, and the best way to checkmate it.

CHAPTER 18

VARIOUS WAYS EMPLOYED TO CHEAT AND ROB INVENTORS

While it is impossible to enumerate all of the different methods employed in bringing about the proverbial slip between the cup and the inventor's lip, a few of the usual means, and those generally adopted, in fact so general, that they have come to be looked upon as almost legitimate, established precedents, are as follows:

If the inventor is in the employ of a company manufacturing goods, to which his invention is a valuable addition, the company simply "takes it," and applies for a patent on the same, as being the original inventor. In most cases the inventor is not even informed of the patent application, and generally some high official in the company's employ claims and gets the credit and reward for inventing it. Should that invention be very valuable, or the inventor commits the indiscretion of making other inventions, he will be promptly discharged on one pretense or another, to be rid of his

presence, so as to "nip any possible trouble in the bud," and the poor inventor has to "drift" for a while until he strikes something again and probably has a similar experience in the course of time, if he did not get "wise" by his last experience.

Another pet practice is for a concern to boldly take another man's invention that is valuable to it, and work it as if it were its own, of course making money out of it, and very often doing so undisturbed. This may be possible for a variety of reasons, such as, being at a distance from the inventor and his having no means of finding it out; or, again, he may be dead, and his rightful heirs may have no knowledge of the patent, its value or its infringement. But should even the inventor be alive and find them out and attempt to call them to account, he will promptly be informed to "go and see their lawyers," which is only another way of telling him, "well, what are you going to do about it?" For if he goes to see their lawyers, they will most condescendingly and patronizingly inform him that that patent is not "valid," and advise him not to bother his head about it, as it would do him no good. And unless he has the means to engage lawyers, who require fat "retainers," he is absolutely helpless, and the exploiters of his invention can enjoy their ill-gotten gains with impunity.

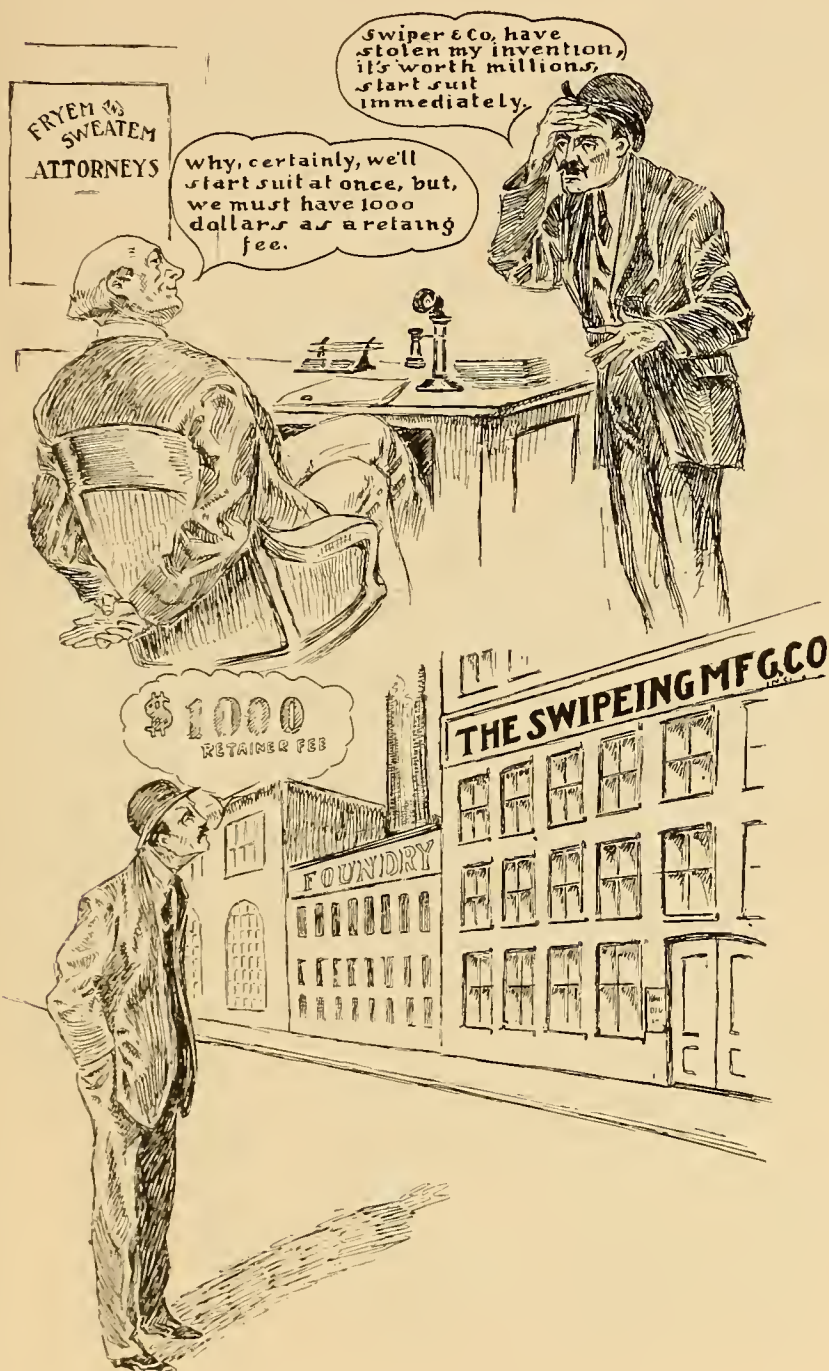
CHAPTER 19

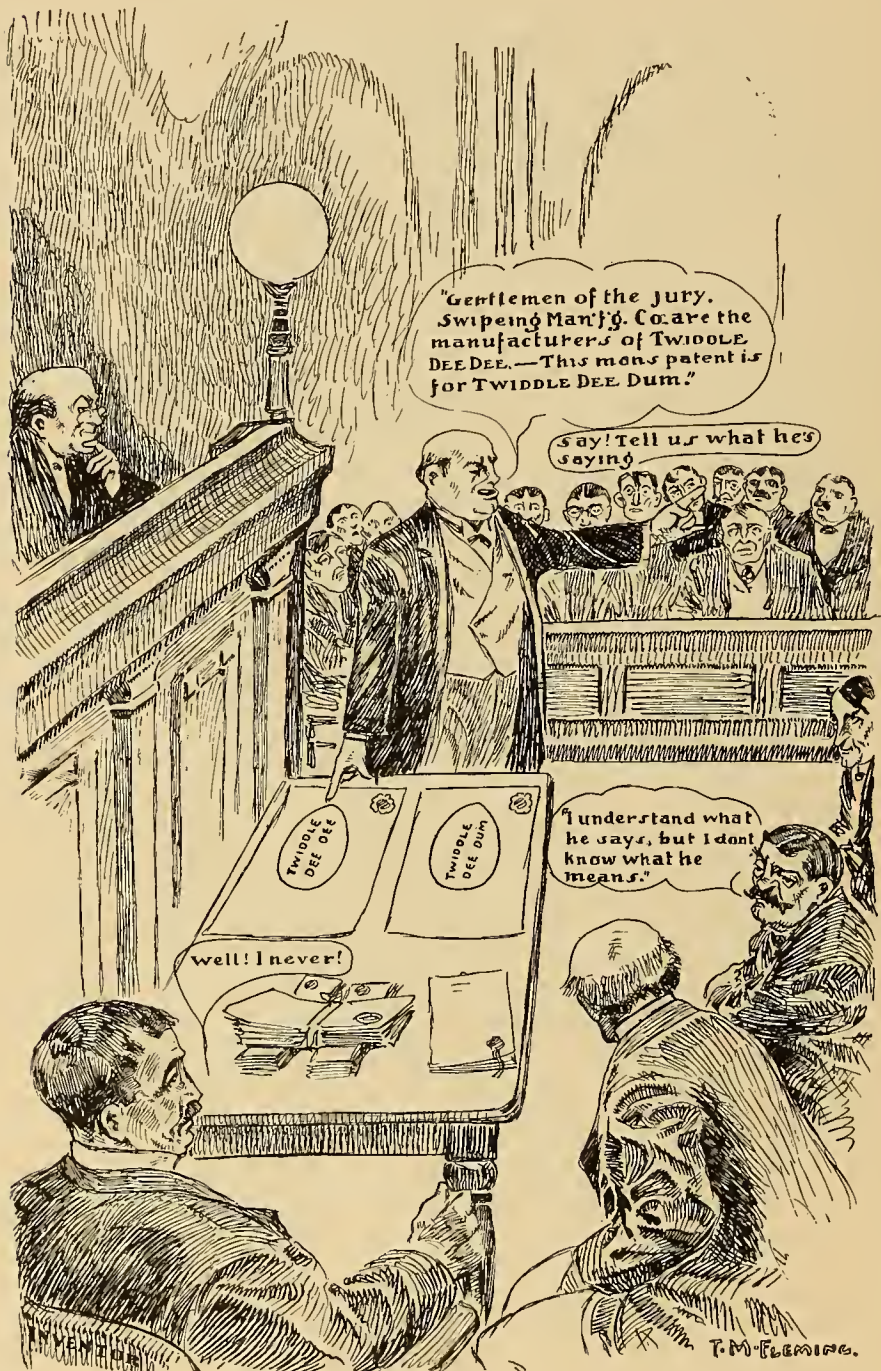
GOVERNMENT CONNIVANCE AT THE DESPOILING OF A POOR INVENTOR

Incredible, yet it is true, that if a patent is infringed upon, and for some reason the inventor, though cognizant of it, does not commence suit, it is held that he acquiesced in the same, and the parties who are stealing his invention, as well as others, can go on robbing him with impunity.

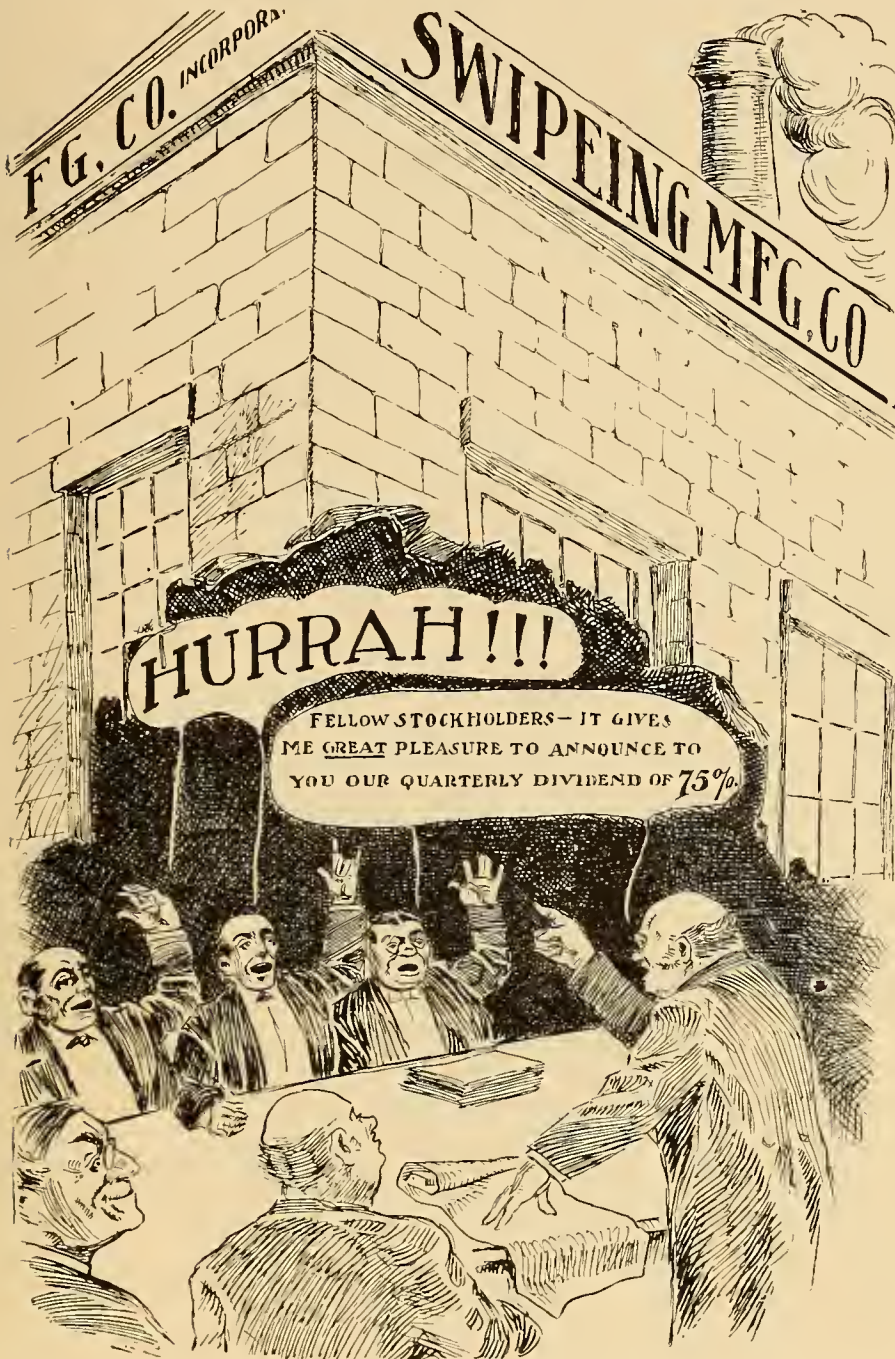
The "INTERFERENCE" trick is usually resorted to, to transfer a valuable invention from a poor but rightful owner to those who want it, and have the money to make profitable use of it and pay for the trick. The most surprising part of it is that it is done







DEFENDED IN COURT * * * * ON TECHNICALITIES.



THE EXPLOITERS OF HIS INVENTION CAN ENJOY THEIR ILL-GOTTEN GAINS WITH IMPUNITY.

quite legally and generally successfully and with no "comeback." It is also very remarkable for its simplicity of procedure, which is usually as follows:

A manufacturer of a certain line of goods makes it his business promptly to obtain copies of all patents in his own line of goods as soon as they are issued. When he finds something that he thinks he wants or can use to advantage in his business, he promptly goes ahead, starts to make it by copying the patent illustration in the published records, and as promptly and innocently files a patent application in the patent office, which is an exact duplicate and copy of the other man's patent that has been issued and published.

In due course he gets the return of his patent application from the patent office with the citation against it of the other man's patent that he is copying. He then promptly notes the date of the patent application of the other man's patent and files what is called in the patent office as "INTERFERENCE," simply claiming that he invented his invention or thought about it, or dreamed about it at a previous time, allowing himself a sufficient margin of a year or two before the date of application of the other man's patent, and thereby claiming himself the rightful inventor of the same, boosting up his own false affidavit by one or two lying witnesses, which experience has demonstrated is a commercial commodity. Having done that, it is necessary for the right inventor, who has received due notice from the Patent Office, to come and defend his title to his patent, in spite of the fact that the patent has been issued to him after the customary and usual formalities in due legal form, and payment of all legal fees. In order to defend the same now, he is obliged to engage attorneys who require the usual and indispensable retainers, fees, etc., without any certainty at all of being able to retain his just claim to his patent, for the very simple reason that the time of the filing of his patent was probably within a reasonable time of the making of his invention, and he has to combat the sworn testimony of his adversaries, who have given themselves ample latitude in insuring their priority claim. While they are swearing falsely, they reason, and rightly so,

that it is no more criminal to lie by the year than by the month, and consequently they make sure of it, and give themselves plenty of rope, with the result that the rightful inventor, after paying his original fees for the obtaining of the patents and the second fees for defending it, usually loses the same and his invention, simply because circumstances and his conscience do not permit him to defend himself against his adversaries with the same weapons he is attacked with, namely, perjury; thus he remains by force of circumstances an honest man considerably poorer, and a whole lot wiser by his experience.

CHAPTER 20

OLD AND COMMON TRICKS EMPLOYED TO "DO" AN INEXPERIENCED INVENTOR

Another method in vogue for appropriating other people's inventions, is to copy it, making some slight minor change in it, and defend it in court, if need be, on technicalities.

There are still other ways, by which inventors often lose their just dues, which is generally the fault of their own inexperience, as for instance, by giving exclusive manufacturing privileges to somebody without a reasonable guarantee, for the making of a certain quantity per stipulated period. The possessor of the privilege will then only have to make one in the whole life of the contract, and thereby rid himself of a competitive article from the market, at the inventor's expense.

Then there are various methods of avoiding the payment of royalties on all that's made, by getting them made at different places, unknown to the inventor, and by keeping two sets of books. If the invention forms the basis of a Stock Company, by allowing the inventor only a minority of the stock, and taking all of the earnings of the invention in large salaries by the controlling parties, thus leaving the inventor out in the cold.

CHAPTER 21

THE ROOT OF THE EVIL

The different ways of appropriating other people's invention without giving any equivalent for it, are made possible by our existing laws which are notoriously defective for insuring justice and equity to those who labor with their brains, who, in the opinion of most people, are as deserving of protection, in the enjoyment of the fruits of their labor, as they who work with their hands.

If the man who cultivates the soil, raises a crop and when the same is ripe, some one should come and boldly reap and harvest the same, and carry it off to his barn and enjoy the proceeds thereof, the law would immediately lay its hands on that person, deprive him of his stolen goods, to return the same to the rightful owner. The community would also be wrought up in righteous indignation and add its ostracism of the malefactor, even after he has been deprived of his stealings, suffered the penalty, and is probably penitent.

But it is different, oh! how different, if the stolen property is a mental instead of a hand product. It ought to be apparent that there is a defect somewhere in the profound reasoning of our august law-makers and honorable jurists in framing and interpreting our laws for protection of property that makes it possible for a man to arrest another man that he has found in possession of his plow, while allowing a man to steal another man's invention, for the improvement of all plows, and to throw the inventor out of his office for attempting to remonstrate with him for appropriating his property.

CHAPTER 22

COMPARATIVE LEGAL PROTECTION AFFORDED TO
MENTAL AND PHYSICAL PROPERTY

The law is very partial in protecting the rightful owner in possession of that which to produce requires but manual labor and very little preparation, but it gives no practical protection to the rightful owner in securing to him even a part of the benefits of his pro-

duction, if the same is the result of the labors of the brain, after spending many years in hard and careful study in making it possible for him to accomplish it.

Dame Justice with unsheathed sword stands guard over the cellar of potatoes that took three months for the ox and his owner to produce, but she is entirely indifferent if an intelligent and educated engineer is robbed of the results of his labors of several years, after collecting a fee from him for doing that which it does not do, and which it ought to do freely. It is manifestly a peculiar logic, entirely at variance with the rules, that govern the ideas of equity.

The man who produces a field of corn that will feed a dozen cows is directly protected in the possession thereof by the paid officers of the law of the community, while the man who, by his exertions, lightens the burdens of millions of human beings has no claim upon the services of the community's enforcers of the law of property rights.

CHAPTER 23

THE UTTER HELPLESSNESS OF A POOR INVENTOR TO OBTAIN JUSTICE

It is confessedly an enigma to many a man, why if an inventor is so unlucky as not to possess the large sums of money required to engage the services of competent attorneys, he must be content to see the despoiler of the fruits of his labor enjoy it. And should he, the inventor, be so indecorous as to accuse him of it, the law will immediately fly to the assistance of his despoiler, and clap the unlucky inventor in jail for libel.

Again, if a man, as member of a corporation, appropriates another man's property the law does not permit him to retain it, or exempt him from the consequences of this unlawful action by reason of any limitation of responsibility as a member of a corporation. But, should the corporation appropriate another man's invention, and after expensive and long drawn-out litigations, the inventor should be awarded damages from the company for exploiting his invention, all the company has to do to avoid paying the award is to fail,



THE LAW
IS VERY
POWERFUL
IN PRO-
TECTING
THE
RIGHTFUL
OWNER.

DAME
JUSTICE
WITH UN-
SHEATHED
SWORD
STANDS
GUARD
OVER THE
CELLAR OF
POTATOES.

NO CLAIM
UPON THE
SERVICES
OF THE
COMMU-
NITY'S
OFFICERS
OF THE
LAW.

WHY, OH WHY, IS THE STEALING OF ONE KIND OF PROPERTY A CRIMINAL OFFENSE, ANOTHER ONLY A CIVIL TORT?

and the same individuals can re-organize to do the same business under a new charter and name, and may steal the same inventor's patent again, providing it pays it to do so, and the inventor would have to commence to fight again in court.

Why, oh why, is the stealing of one kind of property a criminal offense, and another only a civil tort?

CHAPTER 24

PUBLIC ATTITUDE TOWARDS HIM WHO STEALS PHYSICAL AND TO THE ONE WHO STEALS MENTAL PROPERTY

Good people will justly gather up their coat-tails in holy horror, when perchance they come in contact with a man convicted of highway robbery, but when has a man been expelled from Church membership, or from fashionable clubs, who has lost a patent suit by a clear case of intentional infringement being proven against him?

At present it would seem that many inventors have a special reason for deploring the decadence of the Eternal Brimstone-Doctrine, as punishment for wrongdoing, especially for the breaking of the Eighth and Tenth Commandments, as its modern substitute of "Thou shalt not steal, less-than-necessary-for-lawyers'-fees-to-absolve-you-and-a-reasonable-margin-of-profit," manifestly is broad enough to include the stealing of inventive production.

CHAPTER 25

PRESENT AVAILABLE MEANS OF PROTECTING AN INVENTION

To protect an invention is indeed a very serious problem, under any and all circumstances, yet there are certain conditions that will protect it in a measure.

The first and most potent is to have a good deal of money to fight infringements with, for money not only has the famed virtue of "covering a multitude of sins," but of keeping others from sinning against you.



THE
COMMUNITY
WOULD BE
WROUGHT
UP IN
RIGHTEOUS
INDIGNA-
TION.

BUT IS IT DIFFERENT OH! NOW! IF THE STOLEN PROPERTY IS A MENTAL INSTEAD OF A HAND PRODUCT?

Second: Good and careful invention and designing by making the mechanical contrivance as nearly basic as the circumstances will permit, and to design and invent contrivances for the same purpose in as many other ways from the one to be used as possible, and by patenting the same, making it harder for anybody else to get around it.

Third: To so develop your means of producing your invention, that they will enable you to hold your own in competition in the market should it come.

Fourth: To have a good patent lawyer draw your patent claims.

Fifth: If possible have that lawyer interested in your invention.

Sixth: Never give it out to be worked on a royalty, unless it is to some party with whose ability and integrity you are satisfied, and even then have a clearly defined contract in writing as to quantities and conditions.

Seventh: If the invention is assigned to a corporation, do not leave yourself with a minority of stock if you can at all help it, but if you cannot possibly avoid parting with a majority of the stock, identify and amalgamate your interests with some other stockholder in your company, that in combination with him will give you a majority and control; and arrange if possible for your services to be indispensable and profitable to the company.

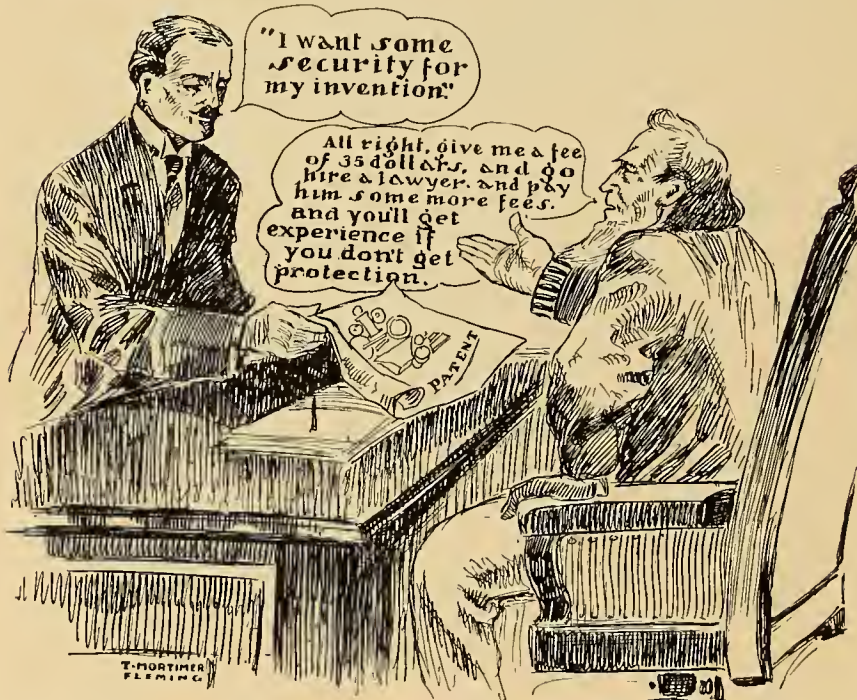
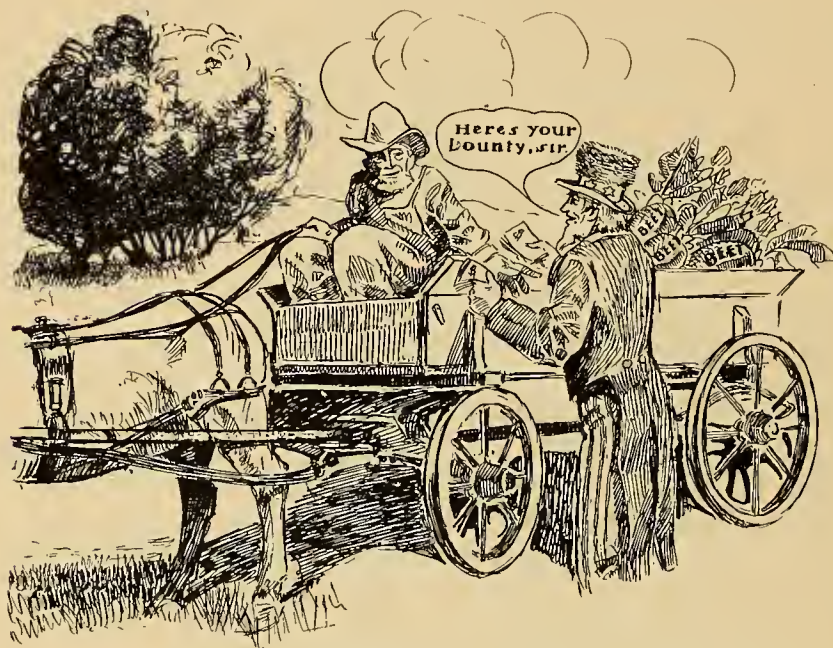
Last, never sign an agreement with anybody assigning to them all of your future improvements and inventions you may make for the same purpose. You will be reasonably protected if you can keep that "up your sleeve." For the world is usually more mindful of the man with the "Big Stick" than with the "Big Grievance."

CHAPTER 26

COMPARATIVE GOVERNMENT TREATMENT—A BOUNTY
FOR RAISING “SUGAR BEETS,” BUT A
TAX ON INVENTIONS

Laws are framed and a great deal of money spent by our Government for the encouragement of useful production by its people. For illustration, it is considered that the best way to produce sugar, is the raising of the sugar cane which is raised in the world in sufficient quantities to meet all possible demands, and naturally enough in places where it can be raised to the best advantage. Many of those places are under the Stars and Stripes, namely, Louisiana, Hawaii, Porto Rico, and the Philippine Islands. Yet if a citizen who, on his farm, could produce many diverse articles and sell the same to advantage, chooses instead to raise a vegetable (beets), from which sugar can be manufactured at a disadvantage, expects and receives from the Government not only absolute protection of his production, and also the securing of an enhanced price for the same, through a high tariff, but an actual bonus of money known as a “bounty.” But the inventor who bestows great benefits on his fellow citizens and the world at large, and gives it that which can not be had at all elsewhere at the time, is evidently not deemed by our law-makers of sufficient importance to receive any encouragement or justice.

From what has been said here, it ought to be very evident that there is a wide difference in the treatment meted out by our Government to him who renders services to society by digging in the dirt, and to him who digs in the brain.



DIFFERENCE IN THE TREATMENT METED OUT BY OUR GOVERNMENT TO HIM WHO RENDERS SERVICES TO SOCIETY, BY DIGGING IN THE DIRT, AND TO HIM WHO USES THE BRAIN.

CHAPTER 27

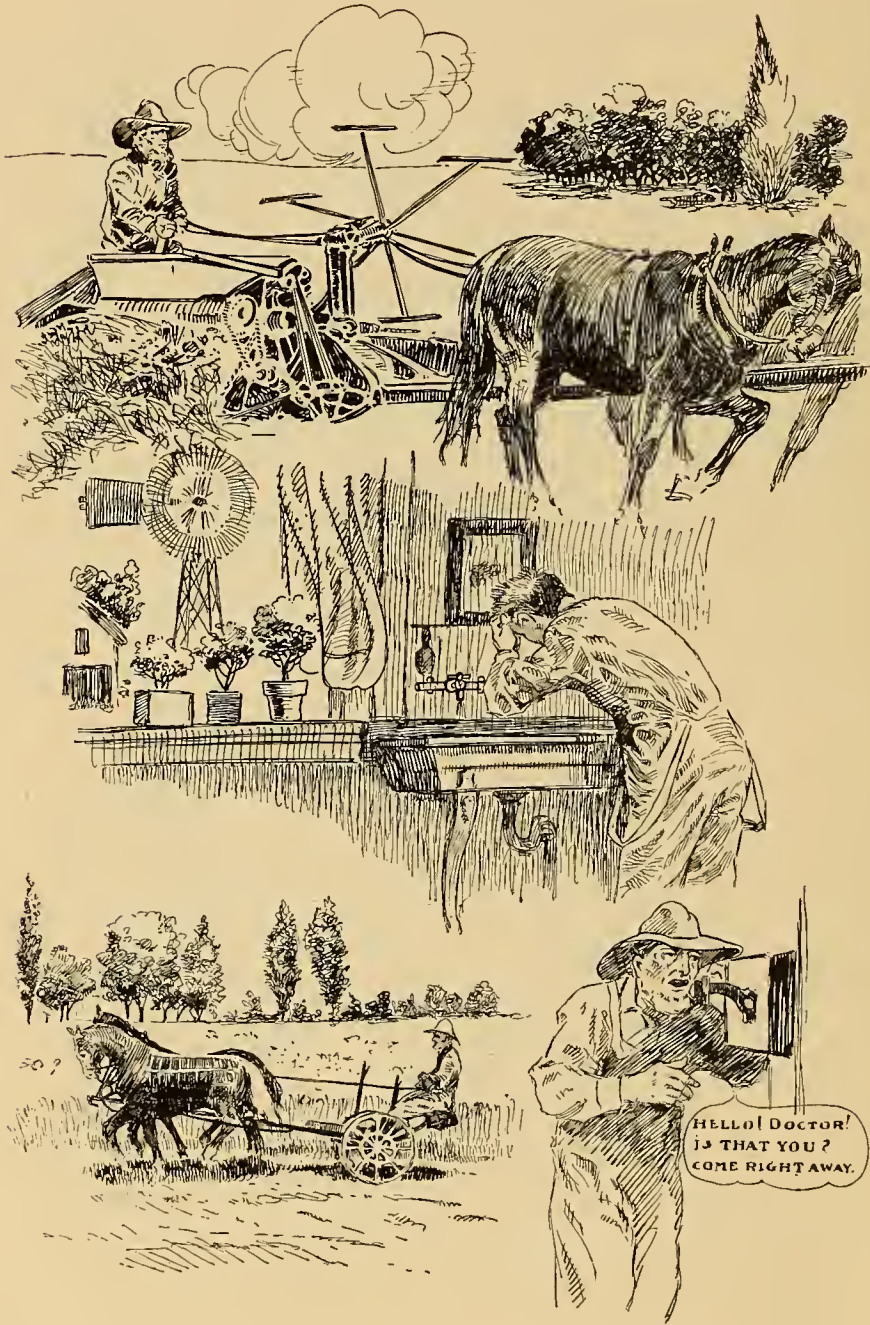
SOCIETY'S DEBT TO THE INVENTOR

It is certainly good and just public policy that the Government should spend a good deal of money for the benefit of the farmers, but where is the justice and the good public policy in making money out of the inventors? (See statistics of the fiscal returns from the Patent Office.) Is the former more indispensable to society than the latter? Has not the ingenuity of the inventor enabled even the farmer, the special protégé of the Government, to get greater returns from his labor than ever in the history of the world? Has he not made his task lighter, and has he not enabled him to get more of the good things of the world for the earnings of his labor? And is it not in a great measure through the inventor's ingenuity and industry that this country has attained its unprecedented prosperity in Peace and mighty potency in War?

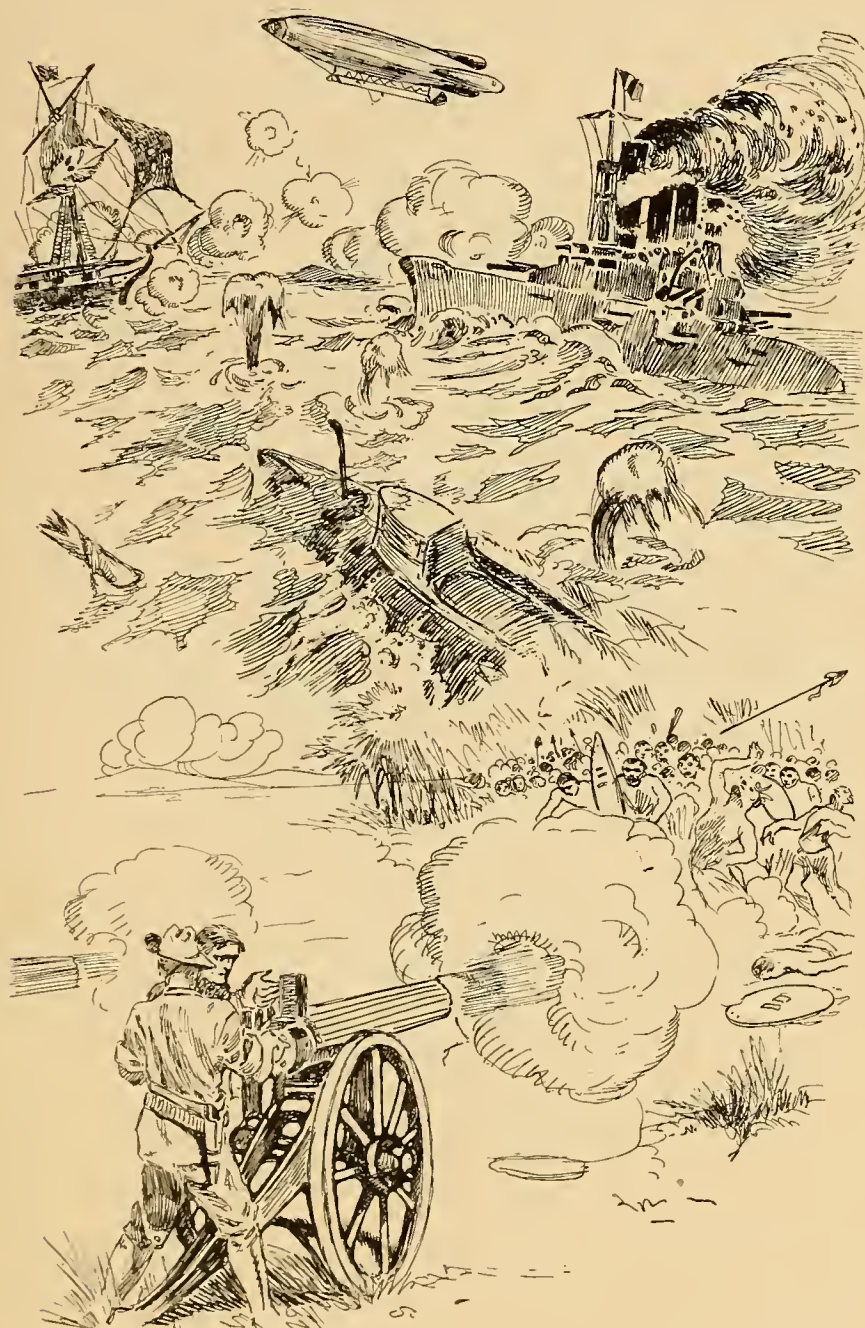
CHAPTER 28

COMPARATIVE PROTECTION GIVEN BY THE
GOVERNMENT

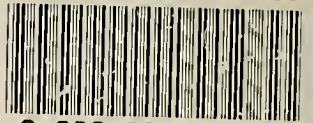
Our formidable warships are always ready to race to the furthest end of the world to protect our merchants and their wares. Even our missionaries have the "moral" support of our "strong arm," in forcing on the so-called heathens the barter of "cozy corners in Heaven" for "cash down," but it is a notorious fact that certain so-called civilized countries are making it their habit and custom quite openly to appropriate every invention that is worth appropriating, providing the inventor is a foreigner, and the unfortunate inventor has not even got a cause of action at law, nor would the inventor's complaint at the State Department be productive of anything more substantial than polite regrets. These modern Barbary Pirates need not fear another Commodore Perry, so long as they devote their depredations solely to the comparatively more valuable production of the brains instead of the hands.



HAS NOT THE INGENUITY OF THE INVENTOR ENABLED EVEN
 THE FARMER * * * TO GET GREATER RETURNS FOR HIS LABOR? * * *
 HAS HE NOT MADE HIS WORK LIGHTER AND HAS HE NOT ENABLED HIM TO
 GET MORE OF THE GOOD THINGS OF THIS WORLD?



THROUGH THE INVENTOR'S INGENUITY AND INDUSTRY THIS COUNTRY HAS ATTAINED ITS
MIGHTY POTENCY IN WAR.



CHAPTER 29

THE LAW'S DEFINITION OF PROPERTY—AND PUBLIC POLICY

Evidently the law's definitions of "Industry and Property" are only that which were known and accepted as such before the Era of Mechanical Inventions. And while the law is sufficiently modern in exacting a fee from this modern class of toilers, yet it has not modernized sufficiently to extend to them the encouragement and protection that in all reason and justice they are entitled to, even without additional exaction from them, and it is also against public policy.

"Full many a gem of purest ray serene the dark unfathomed caves of ocean bear."

"Full many a flower is born to blush unseen and waste its sweetness on the desert air."

Many a great invention to increase human comfort and happiness would be given to the world, if inventors were given that encouragement and protection which their genius, industry and usefulness deserve.

CHAPTER 30

THE SUCCESSFUL INVENTOR

One has indeed to be more than ordinarily gifted, and most carefully trained in many directions, spiritual, mental and physical, to be a successful inventor. To improve by one's own ability and efforts the results of any phase of human activities; to conceive, execute and adopt and introduce a new and improved method for the carrying out of certain human exertions without infringing upon, or appropriating the efforts of others; to secure a fair and just share of its benefits, to be translated to higher planes of life, without becoming over-conscious of it; to be called to the management of affairs involving the interests, and welfare of others; to be able to do so, not only profitably, but in a manner to gain, hold and preserve the esteem of our fellow-beings, is indeed a creditable achievement. Well

worth the ambition of every high-minded person extraordinarily gifted. It requires the proverbial wisdom of an owl, the cunning of a fox, and the courage and strength of a lion.

If the true history of all the pre-eminent inventors should be written, it would be a record of "Making" the most of oneself, painstaking labor, and of constant devotion to duty, of as brave and as true men as ever wore brass buttons and gold lace; who, without martial glamour and loud acclaim, quietly solve and overcome great difficulties, against discouraging odds, and attain good results.

CHAPTER 31

COMPARATIVE TREATMENT THE WORLD ACCORDS TO THEM, AND SUMMARY

The world pays no heed to the efforts and struggles of such men, often neglects to reward their good achievements, yet it never fails to avail itself of their benefits.

The Monetary reward meted out by the world to even the most successful inventors is insignificant, compared to the benefits bestowed upon it by the beneficiary of its gratitude.

The world is full of monuments and statues to them who have or have tried to benefit it by destruction and slaughter, and by the making of widows and orphans, but one would have to use "Diogenes' Candle," to find the monuments to them who have benefited the world, by giving it untold wealth and happiness, without sorrow or suffering, except to themselves, through scientific and mechanical research and invention.

The feeling of having benefited our fellows, of having helped to improve the world for others, as others have done for us, the sweet consciousness of having given the world "What was best in us," is the true and only adequate reward to him who has given his best efforts to lighten human burdens and increase their happiness.

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